The Metaphysics of MARGARET CAVENDISH *and* ANNE CONWAY

Monism, Vitalism, and Self-Motion

MARCY P. LASCANO

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For Jason, Xander, and Rupert

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Introduction

This book is about two early modern women philosophers—Margaret Cavendish and Anne Conway—but it is also a book about early modern metaphysics. So my focus concerns their views on subjects like the existence and nature of God, the ultimate constituents and structure of the world, substances, the individuation and nature of beings, causation, perception, and free will. However, issues in epistemology, methodology, and teleology are also addressed. Moreover, the metaphysical systems developed by these philosophers are to some extent in service of understanding other aspects of our world. Margaret Cavendish develops her metaphysical system in conjunction with her explanations of phenomena in natural philosophy. That is, she believes that her system enables us to make the most sense (and reason) of the things we find in the natural world, such as the nature of fire, the development of animals, the motions of matter, and the treatments and causes of disease. For Anne Conway, metaphysics is largely in the service of reconciling God's goodness and justice with the seemingly imperfect world of our experience. She is concerned to explain how evil and suffering are compatible with an all-powerful and all-good God. In other words, she is primarily concerned with providing a theodicy.[1] In what follows, the issue of why it is fruitful to consider these women's views in tandem is addressed. But first we must address the issue of how we got to the point where a book on the metaphysical views of early modern women philosophers was necessary, or even possible.

Early Modern Women and the History of Philosophy

We know that women have engaged in philosophical discourse since antiquity, but we also know that most of these women's voices were

[1] Leibniz coined the term "theodicy" with the publication of his work of the same name in 1710.

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lost or buried until recently.[2] The acknowledgment of their disappearance from our histories and the work in recovering and evaluating their contributions to philosophy has been due to the unyielding efforts of a number of intrepid scholars.[3] It is important to remember, even as we celebrate the return of these women philosophers, that they were excluded from our philosophical histories. This exclusion was not based on the merit of their views. Rather, it was due in part to disciplinary and institutional prejudices that favored particular programs of inquiry—science over religion—and particular philosophers—male over female. Moreover, there is no doubt that misogyny played a large role in the exclusion of these philosophers, as many of them recognized such prejudice in their own writings. In addition to understanding the mechanisms that erased women philosophers from our histories, it is important to acknowledge the work that it has taken to bring them back. This includes the ongoing efforts to make their works accessible, to provide guides to teaching their works, and to create secondary literature on various aspects of their philosophical views.

In order to research or teach the works of a philosopher like Margaret Cavendish, we need not only to realize that she existed and wrote philosophical works, but also to have access to those works. Cavendish was not completely forgotten by scholars, although she was largely ignored by philosophers until the last twenty years or so. Some of Cavendish's plays, poetry, and science fiction have seen multiple editions.[4] That said, the only scholarly edition of her philosophical essays to date is Eileen O'Neill's edition of *Observations upon Experimental Philosophy* from 2001. This groundbreaking edition has shown the value of Cavendish's work and made it possible for a number of new scholars to discover Cavendish's philosophical views.[5] Of course, *Observations* does not give us a complete understanding

[2] For an overview of women philosophers throughout the history of philosophy see Waithe, *History of Women Philosophers*. For an exploration of the reasons for their disappearance, see O'Neill, "Disappearing Ink," and her introduction to *Feminist History of Philosophy*.

[3] For instance, Lilli Alanen, Margaret Atherton, Jacqueline Broad, Jane Duran, Karen Green, Sarah Hutton, Lisa Shapiro, Deborah Boyle, Karen Detlefsen, Andrew Janiak, Mary Ellen Waith, Mary Warnock, Catherine Wilson, and Charlotte Witt.

[4] A new edition of Cavendish's poetry published by the *New York Review of Books* and edited by Michael Robbins appeared in 2019, and Brandie R. Siegfried's critical edition of Cavendish's *Poems and Fancies* with *The Animal Parliament* was published in the series The Other Voice in Early Modern Europe in 2018.

[5] For instance, Deborah Boyle, Colin Chamberlain, David Cunning, Karen Detlefsen, Alison Peterman, Jonathan Shaheen, and others.

of Cavendish's philosophy, and much work is needed in producing scholarly editions of her other writings. While Cavendish's other philosophical works have yet to see such editions, there are several new studies of her philosophy and teaching editions of her works available.[6]

The reintroduction of Anne Conway into our philosophical history began with Peter Loptson's edition of *The Principles of the Most Ancient and Modern Philosophy* (which includes the Latin text and the 1692 English translation) in 1982 and Sarah Hutton's important revision of Marjorie Hope Nicolson's *The Conway Letters* in 1992. These primary sources were followed by a modern translation of the *Principles* by Allison P. Courdert and Taylor Corse in 1996, and Sarah Hutton's *Anne Conway: A Woman Philosopher*, which was published in 2004. These texts laid the groundwork for the scholarship and teaching of Conway that we have today.[7] A new edition and translation of the *Principles* will soon appear, translated by Andrew Arlig and edited by Christia Mercer and Jasper Reid. This new edition will also feature important texts by Henry More and Francis Mercury van Helmont, whose close philosophical relationships with Conway shed light on the development of her views.[8] Since Conway's writings are limited to her posthumous text and her letters, it has been easier to make her work more accessible.[9]

In addition to these works, there are several other women philosophers whose works have recently received new editions, such as Princess Elisabeth of Bohemia, Mary Astell, Catherine Trotter Cockburn, Emilie du Châtelet, Mary Shepherd, and Sophie de Grouchy.[10] These efforts have paved the way for studies of the kind this book represents. All of us who have benefited from

[6] David Cunning's *Cavendish* in the Routledge Argument of the Philosophers series, Deborah Boyle's *Well-Ordered Universe*, Cavendish's *Philosophical Writings*, edited by David Cunning, *The Grounds of Natural Philosophy*, edited by Anne M. Thell, an abridged edition of *Observations* edited by Eugene Marshall, and *Philosophical Letters*, edited by Deborah Boyle.

[7] Thanks to scholars including Julia Borcherding, Jacqueline Broad, Jessica Gordon-Roth, Christia Mercer, and Emily Thomas.

[8] Conway's *Principles of the Most Ancient and Modern Philosophy* was published after her death, from a notebook found in her rooms by Francis Mercury van Helmont. It was originally published in 1690 in Latin, translated by Christian Knorr von Rosenroth, edited by van Helmont, with an introduction by Henry More. Unfortunately, the original English was lost. The 1692 English edition was translated from the Latin. For more on how the *Principles* came to be published, see Reid, "Conway and Her Circle on Monads."

[9] For the correspondence of women philosophers, see Jacqueline Broad's *Women Philosophers of Seventeenth-Century England*, and *Women Philosophers of Eighteenth-Century England*.

[10] These important works are available due to the efforts of Lisa Shapiro, Patricia Springborg, Jacqueline Broad, Patricia Sheridan, Judith Zinsser, Isabelle Bour, Katherine Brading, Antonia Lolordo, Don Garrett, Sandrine Berges, and Eric Schliesser.

these efforts owe a great debt of gratitude to the women and men who have worked, and are working, to restore these voices to our histories. It has been a long process, and there is still much to do. Access to high quality scholarly editions, edited by philosophically sensitive individuals continues to be an obstacle to the full integration of women into our research and classrooms.

Cavendish and Conway

I return now to issues concerning the two philosophers under consideration in this work. I suppose that the answer to the questions "Why these philosophers?" and "Why this book?" might be answered by saying that I find them interesting, and my work is primarily in early modern metaphysics. But perhaps it is best to say *why* I find them interesting and *why* I believe this book will be of value. As the title of the book indicates, the metaphysical views of Cavendish and Conway share at least three features that will be explored in this study. They are both widely perceived as committed to a type of monism, vitalism, and self-motion. Their metaphysical systems differ from those of the more frequently studied male philosophers in the seventeenth century in part because of these key features. In tracing the commonalities and differences between Cavendish and Conway, we are able to see more clearly the originality of each of their systems. I will now turn to these features.

First, both Cavendish and Conway hold that the world is one thing. That is, I take each of them to be committed to a type of monism. I will argue that both Cavendish and Conway are committed to a type of substance monism wherein the whole is prior to its parts. That is, they are both "priority monists."[11] Of course, monism is said in many ways, and I show that both philosophers are committed to several types of monism. I also examine their views in reference to holism and the ways in which they think the world is structured. Here I will argue for a type of biological or organic holism for each philosopher.

In addition, both Cavendish and Conway view all of nature as alive and to varying extents sensitive and knowing. That is, both philosophers are committed to a type of vitalism. I will show that for Cavendish, rationality and sensitivity are brute features of a certain portion of matter. Moreover, it is

[11] Here I follow Thomas, "Conway as Priority Monist."

clear that she holds that the world might have lacked these features. But given the nature of the matter that exists, we find ourselves in a world that is living, sensitive, and minded. I discuss why she thinks that matter has these features and how we come to know it. In addition, I explain how the exemplification of reason and sense are dependent upon the dynamic structures of species or natural kinds. For Conway, as we shall see, life is an essential component of the world and no world could exist without it. This is due to the fact that all of nature is emanated from God and must share in at least some of his attributes. Since God is "spirit, light, and life, infinitely wise, [and] good," the world exhibits these features. Thus, nature necessarily is living and knowing. Like Cavendish, Conway also holds that the sort of knowledge an individual exhibits is relative to the kind of thing it is.

Finally, according to both philosophers the world is continually moving and changing. For both, this is due to the fact that all the entities in the world are self-moving. Self-motion is, of course, intimately tied with vitalism and was often taken in the period to be the hallmark of living organisms. Cavendish believes that only a portion of matter (what she calls "sensitive and rational animate matter") is innately self-moving, but due to the complete blending of this matter with inanimate matter, all of nature is either moving or moved. This motion never ceases even though our perceptive faculties are unable to detect many of the motions. For Cavendish, the motions of matter are the principle of all change, variety, and balance in the world. Her self-moving matter composes and divides, contracts and dilates, and, in doing so, forms figures and structures in the world that constitute the objects of our everyday experience. In addition, her accounts of perception and causation rely essentially on the ability of entities to move themselves in accordance with the motions of other entities. For Conway, all created spirit also is self-moving and constantly changing. It is the hallmark of the created world that things can change for better and for worse, but that ultimately all beings are raised toward the good. Conway also holds that spirit is divisible as well as capable of expanding and contracting. According to Conway, causation and perception happen by the exchange of spiritual substance. When entities sense other entities, they literally exchange spirit with each other.

Moreover, both Cavendish and Conway hold that the living, self-moving entities matter and spirit, respectively, have the properties that were traditionally associated with both mind and matter. For Cavendish, matter is not only divisible and extended, but also thinking and sensitive. Conway's spiritual substance is minded and perceptive, and also comes in degrees of

penetrability and density. So for each of these philosophers the underlying substantial stuff of the world contains all the properties that a substance dualist, like Descartes, might claim to belong to either mind or body, but not both. Cavendish holds that only material entities constitute the world, but that there may be immaterial entities that exist outside of it. In this sense she is working within a sort of dualistic system. However, I will argue that Conway completely rejects the dichotomy between spirit and matter. Both Cavendish's and Conway's views were certainly influenced by the well-known difficulties associated with dualism, such as issues about mind-body interaction. But their systems do more than attempt to solve problems in Cartesian metaphysics.[12]

Both Cavendish and Conway thought that the mechanical philosophy held by Thomas Hobbes, René Descartes, Pierre Gassendi, Robert Boyle, and Robert Hooke was insufficient for explaining life, generation, growth, and other types of movement. Their advancement of vitalistic systems provides a counterpoint to the dominant understanding of natural science during the seventeenth century. Of course, they were not alone in questioning the efficacy of mechanical theories in explaining the phenomena we observe in the world. Figures like Ralph Cudworth, Henry More, and Francis Mercury van Helmont also challenged a strictly mechanical philosophy in their accounts of the natural world. In addition, both Cavendish and Conway can be seen as advocating philosophical systems that, in many ways, prefigure some of G. W. Leibniz's system in terms of vitalism and the nature of God.[13]

The general similarities between Cavendish's system and Conway's system are many, but the details and aims of their philosophies are quite distinct.[14] It is part of the aim of this study to show the ways in which these two systems, while containing many similar important features, result in distinctly original depictions of the world. Part of this difference is certainly due to the fact that Cavendish seeks to separate her natural philosophy from theological issues as much as possible, while Conway's system is wholly consumed with depicting the world's relation to God. In addition, I will argue that while

[12] For an illuminating discussion of their views with respect to Cartesianism, see Broad, *Women Philosophers of the Seventeenth Century*.

[13] We know that Leibniz read Conway's *Principles*, and he claimed that his philosophy was similar to hers.

[14] This study is by no means the first to point out some of these features. See Broad, *Women Philosophers of the Seventeenth Century*; Clucas, "The Duchess and Viscountess"; Detlefsen, "Cavendish and Conway"; and Hutton, "Anne Conway, Margaret Cavendish."

Conway's philosophical system is clearly teleological, Cavendish's system is only very weakly normative. These issues are clearly related in that Conway seeks to show the way God's justice and providence are manifest in the world, while Cavendish views nature as a largely self-sufficient system with no ends beyond self-maintenance.

Given the surface similarities between Cavendish's and Conway's systems, we might think that they had some personal connection. However, they did not know each other. But they knew of each other, and it is possible that Conway may have read some of Cavendish's work. Conway's book, however, was not published until after her death and well after Cavendish's death. Cavendish, of course, was aware of Conway and her famous friend and tutor the Cambridge Platonist, Henry More. Cavendish repeatedly sent her own works to More in hope that he would engage with her philosophically. She might have thought that his relationship with Conway evinced an openness to reading the works of other women philosophers. Cavendish also makes several thinly veiled references to Conway and More in her writings. For instance, in her *Philosophical Letters* She writes,

> I am no Platonick; for this opinion is dangerous, especially for married Women, by reason the conversation of the Souls may be a great temptation, and a means to bring Platonick Lovers to a neerer acquaintance, not allowable by the Laws of Marriage, although by the sympathy of the Souls. (PL 219)

The quotation is from a section of *Philosophical Letters* dedicated to discussing More's philosophical works. The context of the passage concerns bringing ancient and Jewish influences into one's philosophical system, which both More and Conway did. Cavendish implies that the relationship between the "Cambridge Platonist," Henry More and the married Anne Conway might be closer than is appropriate for a married woman in the seventeenth century.[15] While neither Cavendish nor Conway mentions each other by name in their works, one of Henry More's letters to Conway does include a discussion of Cavendish. In the letter to Conway, More discloses that Cavendish has sent him her *Philosophical Letters* and that she criticizes

[15] In addition, in her science fiction work, *Blazing World*, Cavendish's characters have a "Platonic Seraglio" where the souls of the Empress and the Duchess enter the Duke of Newcastle's body, which the Duchess believes is okay "because no adultery could be committed amongst Platonick Lovers" (BW 81).

his views there. More tells Conway that she might reply to Cavendish since no man will "quit his breeches and putt on a petticoat" to do so and Conway "need[s] not" such a disguise.[16] While Conway did not reply to Cavendish, it is certainly possible that she read the work.[17]

While Cavendish and Conway had no personal relationship, they did share common influences. Both were well read in the philosophy of René Descartes, Thomas Hobbes, and Henry More. They also both had strong personal and philosophical interests in natural philosophy—particularly in medicine. As Katie Whitaker notes, Cavendish, along with her husband, was diagnosed as a "melancholic hypochondriac," and she sought continual medical procedures and often self-treated her illnesses.[18] Conway suffered from debilitating headaches all her life, which caused her to seek medical care from numerous physicians.[19] In connection with their studies in natural philosophy and medicine, both Cavendish and Conway were familiar with the works of Robert Boyle, Walter Charleton, Jan Baptist van Helmont, Francis Bacon, William Harvey, Galileo, and others.

Methods and Content

Before turning to the outline of the book, I will briefly discuss some methodological issues. First, I follow a mixed method of pure history of philosophy and reconstruction. That is, while I am sensitive to the context in which Cavendish and Conway are writing, I am also interested in providing an interpretation of their views that oftentimes requires filling in gaps in their arguments and in their texts in order to develop a clear understanding of their systematic metaphysics. I will discuss their philosophical peers, and the texts, debates, and problems to which each philosopher is responding. For instance, it will be important to discuss some of the philosophical views of Hobbes, Descartes, More, van Helmont, and Spinoza in order to understand

[16] More to Anne Conway, May 15, 1665, in Conway, *Conway Letters*, 237.

[17] Conway's library was lost after her death, so we do not know as much about what she read as we might. However, recently at least five volumes bearing her signature have been found. See Edwards, "Lost Library."

[18] Whitaker, *Mad Madge*, 99–102.

[19] See Hutton, *Anne Conway*, for the details of Conway's struggle with her health and the various treatments she underwent to try to relieve her suffering.

the development of some of Cavendish's and Conway's views.[20] While remaining sensitive to these contextual matters, I aim to provide as full an account as possible of their metaphysical systems. As with many figures in the history of philosophy, sometimes their writing on a particular topic is scattered through various texts or in different areas of one text and must be pulled together and organized into a coherent whole. At other times, there may be too little textual evidence to determine their view on a particular matter. In these cases, I attempt to reconstruct their views in light of their other philosophical commitments and in ways that are consistent with the aims and methods of each philosopher. While this certainly may involve going beyond the text as written, every attempt is made to capture the substance of the view intended and the spirit in which it was intended. As Gary Hatfield wisely notes

> Genuine history of philosophy . . . cannot establish the "facts" or "explain" the positions of past authors without critically engaging and rethinking the philosophical content of those positions: there is no such thing as setting forth "the plain facts about what an author thought and said" . . . without substantial (historically sensitive) philosophical reconstruction.[21]

In providing such a historically sensitive reconstruction, we enlarge our understanding of the systematic views of these philosophers. Since the aim of this book is to provide a detailed account of the metaphysical views of both Cavendish and Conway, I use this "historically contextualized philosophical methodology, in the service of an accurate reconstruction of, and critical engagement with" the works of these philosophers.[22]

The outline of the book is as follows: the first chapter delves into basic ontology. I discuss issues relating to the creation of the world and the nature and constitution of substance. With respect to Cavendish, I argue that God plays no substantive role in her metaphysics, that her ontology has two levels, that there is only one matter, and that her "degrees" of matter are best understood as degrees of motion. With respect to Conway, I argue that her account of spirit is an account of neither an immaterial nor a material

[20] I do not include a biography of Cavendish or Conway, but I do discuss their relations with other philosophers in the appropriate sections. Also see the chronology. For the authoritative intellectual biography on Conway, see Hutton's *Anne Conway*. For Cavendish, see Whitaker's *Mad Madge*.

[21] Hatfield, "History of Philosophy," 94 n. 20, quoting Sleigh, *Leibniz and Arnauld*.

[22] O'Neill, introduction to *Feminist History of Philosophy*, 10.

substance, and I side with Jasper Reid in arguing that Conway is not committed to monads, or indivisible spiritual atoms. This discussion provides the outline of their respective monisms, which is further explored in Chapter 2. There I focus on questions about how the parts of the world relate to the whole of nature and whether and what kind of holism we might find in their systems. For Cavendish, I show the reasons for rejecting the claim that she is a neutral monist. I argue instead that she is a substance and priority monist. Finally, I argue that she holds that nature is a living organism and that she posits a type of biological holism. For Conway, I argue that she is a substance monist and an existence pluralist. I side with Emily Thomas in thinking that Conway is also a priority monist, but I argue that we should think that individuals within creation are ontologically dependent upon creation as a whole rather than on God in order to avoid a type of Spinozism.

In Chapter 3, I turn to the topic of self-motion and discuss the ways in which Cavendish and Conway address issues concerning the origin, nature, and transfer of motion in their systems. For Cavendish, I argue against Alison Peterman's view that all motion is reducible to changes in mereological facts by demonstrating that Cavendish posits types of motions that do not involve changes in parthood relations. I also address the ways in which motion is regular and irregular, according to Cavendish. For Conway, I consider Jacqueline's Broad's account of Conway's views on how the soul moves the body, arguing that her view is that it does so by unity and resistance. I then provide an account of Conway's two types of motion and how she understands motion as a mode of body that can be transferred to other bodies without the transfer of substance.

Chapter 4 concerns individuals and addresses Cavendish's and Conway's views on how matter and spirit, respectively, can be transformed into any type of thing, as well as their views on generation, development, and death. I examine Cavendish's view that species propagate via the translation of matter and motions, and Conway's view that the generation of creatures involves a transfer of substance and the impression of the nature of the stronger image contained in the parents, whether male or female. I develop their accounts of individuation and identity over time, arguing that Cavendish's views prefigure four-dimensionalism and that Conway holds that individuals are tracked through the changes in the arrangements of their principal spirit. Finally, I provide Conway's reply to Henry More's claim that only a unity can have a unified perceptual experience.

Chapter 5 concerns the issues of causation and perception. This chapter examines Cavendish's views on causation and perception in light of Hobbes's views. I show that Cavendish maintains that there are two distinct types of causation. I argue contra Karen Detlefsen, whose view is that Cavendish must posit individuals as principal causes for libertarian freedom, that self-moving matter is the only prime or principal cause in nature. Moreover, I show that the occasional cause is necessary (and as part of the entire cause, sufficient) for proper perception. With respect to Conway's views on causation, I argue that Conway, like Cavendish, holds that there are two types of causal relations. Conway argues that bodies are moved mechanically by resistance due to the fact that spirit comes in degrees of impenetrability, but she also maintains that bodies produce fine spirits that are continually exchanged with other bodies through an emanative process. These vital interactions occur when one individual perceives another individual. Finally, I discuss Conway's views on perception, cognition, and knowledge in light of her account of causation.

Chapter 6 considers liberty, or freedom, and necessity. Here we see that Cavendish and Conway tend toward different views on this fraught issue. With respect to Cavendish, drawing on her accounts of causation, voluntary motion, and the general motions of nature, I argue that she holds that individuals have freedom of action, but not freedom of will, or libertarian freedom, as some commentators have suggested. According to Cavendish, while nature as a whole moves freely, creatures are only free when they are able to move without the influence of external objects. In this area, Cavendish's views are similar to Hobbes's views. Conway holds that creatures have a freedom of indifference, which she sees as an imperfection in their nature. Creatures are created with the ability to choose either good or evil, and it is the misuse of this power that is the cause of sin. According to Conway, only God has perfect freedom, and he is determined by his goodness and wisdom to do the best. Thus, Conway holds a compatibilist view of God's freedom.

Chapter 7 explores the ways in which their respective metaphysical systems provide the grounds for Cavendish's natural philosophy and Conway's theodicy. I discuss the ways that Cavendish uses her metaphysical views in order to criticize the views of Hobbes, Descartes, and Hooke, and her complicated relation to Bacon and Boyle. I also present Cavendish's critique of the exclusionary nature of the institutions of the new science. With respect to Conway's theodicy, I discuss Sarah Hutton's views about the nature of

goodness and argue that Conway's account of goodness is both metaphysical and moral. I offer a perfectionist account of Conway's views on morality. I also discuss how Conway reconciles God's goodness with pain and suffering, and provide her account of the afterlife.

Finally, I conclude by addressing the importance of Cavendish's and Conway's views in the history of philosophy and some speculation about the future direction of scholarship on Cavendish and Conway, as well as the recovery project in general. I hope that this book will provide some new ways of thinking about these philosophers' systems that have yet to be fully explored and will encourage others to look more deeply into these issues, not only in Cavendish and Conway, but in the many other women philosophers whose works have yet to be brought to light.

Abbreviations

Bacon	
NO	*The New Organon*. Edited by Lisa Jardine and Michael Silverthorne. Cambridge: Cambridge University Press, 2000.
Cavendish	
BW	*The Description of a New World, Called the Blazing World*. 1666, 2nd edition 1668. Page numbers refer to *The Description of the New World, Called the Blazing World*, in *Margaret Cavendish: Political Writings*, edited by Susan James, 1–110 (Cambridge: Cambridge University Press, 2003).
GNP	*Grounds of Natural Philosophy*, 1668. Page numbers refer to *Grounds of Natural Philosophy: Divided into Thirteen Parts: With an Appendix containing Five Parts* (West Cornwall, CT: Locust Hill Press, 1996).
OEP	*Observations upon Experimental Philosophy*. 1666; 2nd edition 1668. Page numbers refer to *Observations upon Experimental Philosophy*, edited by Eileen O'Neill (Cambridge: Cambridge University Press, 2001), except when explicitly quoting the 1666 edition.
PF	*Philosophicall Fancies*. 1653.
PL	*Philosophical Letters: or, Modest Reflections Upon some Opinions in Natural Philosophy, maintained By several Famous and Learned Authors of this Age . . .* London, 1664.
PPO	*Philosophical and Physical Opinions*. London, William Wilson, 1655; 2nd edition 1663. All references are to the 1663 second edition unless noted 1655.
Conway	
P	*Principles of the Most Ancient and Modern Philosophy*. 1690 Latin edition, 1692 English translation. Translated by Andrew Arlig, Christia Mercer, and Jasper Reid for English quotations (forthcoming in Oxford New Histories of Philosophy). All references are to the Arlig, Mercer, and Reid translation.
Descartes	
AT	*Œuvres de Descartes*. 12 vols. Edited by C. Adam and P. Tannery. Paris: CNRS/Vrin, 1964–76.
CSM	*The Philosophical Writings of Descartes*. 3 vols. Edited and translated by J. Cottingham, R. Stoothoff, D. Murdoch., and A. Kenny. Cambridge: Cambridge University Press, 1985–91.

Hobbes	
EW	*The English Works of Thomas Hobbes*. 11 vols. Edited by W. Molesworth. London: Bohn, 1839–45. Cited by volume and page number.
OL	*Thomae Hobbes malmeburiensis opera philosophica*. 5 vols. Edited by Guliemi Molesworth. London: Bohn, 1839–45.
Kant	
AK	*Kants gesammelte Schriften, Ausgabe der königlich preussischen Akademie der Wissenschaften*. Berlin: Walter de Gruyter, 1900–.
RT	"Lectures on the Philosophical Doctrine of Religion." In *Religion and Rational Theology*. Edited and translated by Allen Wood and George Di Giovanni. Cambridge: Cambridge University Press, 1996.
Locke	
Essay	*An Essay concerning Human Understanding*. Edited by Peter Nidditch. Oxford Clarendon Press, 1979. Cited by book, chapter, and section number.
More	
EE	*Enchiridion Ethicum*. Translated by Edward Southwell. New York: Facsimile Text Society, 1930. Reprint of the English translation of *An Account of Virtue* (London: Benjamin Tooke, 1690).
Immortality	*The Immortality of the Soul*. In *Philosophical Writings of Henry More*. Edited by F. Mackinnon. New York: AMS Press, 1969.

Chronology

1620 Francis Bacon publishes *The New Organon*.

c. 1623 Margaret Lucas is born in Colchester in Essex.

1631 Anne Finch is born on December 14 in London.

1641 René Descartes publishes *Meditations on First Philosophy*.

1644 Margaret Lucas as maid of honor to Queen Henrietta Maria follows her into exile in Paris.

1645 A debate about human freedom between Thomas Hobbes and John Bramhall takes place at the home of William Cavendish. Margaret marries William Cavendish later in the year.

1650 Anne Finch begins her philosophical correspondence with Henry More and marries Edward Conway.

1651 Thomas Hobbes publishes *Leviathan*

1653 Margaret Cavendish publishes *Poems and Fancies* and *Philosophical Fancies*. Henry More publishes *An Antidote to Atheism* and *Conjectura Cabbalistica*.

1654 Walter Charleton publishes *Physiologia*.

1655 Margaret Cavendish publishes *The World's Olio* and *Philosophical and Physical Opinions*. Thomas Hobbes publishes *De Corpore*.

1656 Margaret Cavendish publishes *Nature's Pictures*.

1656 John Finch, Anne Conway's brother, obtains his medical degree from the University of Padua.

1658 Thomas Hobbes publishes *De Homine*. Anne Conway's son, Heneage Edward Conway, is born.

1659 Henry More publishes *The Immortality of the Soul*.

1663 Margaret Cavendish publishes a revised and expanded edition of *Philosophical and Physical Opinions*.

1664 Margaret Cavendish publishes *CCXI Sociable Letters* and *Philosophical Letters*.

1665 Robert Hooke publishes *Micrographia*.

1666 Margaret Cavendish publishes *Observations upon Experimental Philosophy* and *The Description of a New Blazing World* together.

1670 At the bequest of Henry More, the physician and chemist Francis Mercury van Helmont consults Anne Conway about her headaches. Although unable to cure her, he remains a guest in her home until Conway's death.

1667 Margaret Cavendish publishes *The Life of the Thrice Noble . . . William Cavendish* and visits the Royal Society of London to witness experiments by Robert Boyle and Robert Hooke.

1668 Margaret Cavendish publishes the second edition of *Observations upon Experimental Philosophy* with *Blazing World* and *Grounds of Natural Philosophy*.

1673 Margaret Cavendish dies on December 15 and is buried in Westminster Abbey.

1675 Anne Conway and Francis Mercury meet Quaker leader George Keith.

1676 William Cavendish dies and is buried in Westminster Abbey.

1677 Anne Conway and Francis Mercury van Helmont convert to Quakerism. Francis Mercury van Helmont and Christian Knorr von Rosenroth publish *Kabbala Denudata*. Baruch Spinoza's *Ethics* is published.

1679 Anne Conway dies on February 23 and is buried in the parish church at Arrow, Warwickshire.

1684 Francis Mercury publishes *Adumbration Kabbalae Christianae* and *Two Hundred Queries concerning the Revolution of Human Souls*.

1690 Anne Conway's *The Principles of the Most Ancient and Modern Philosophy* is published anonymously in Latin in Amsterdam as part of a collection of three treatises titled *Opuscula Philosophica*. It is likely that the *Principles* was translated from the English of Conway's handwritten notebooks by Christian Knorr von Rosenroth and edited by Francis Mercury van Helmont.

1692 *The Principles of the Most Ancient and Modern Philosophy* is translated into English from the Latin edition.

1

Matter and Spirit

One way we might begin to explore the notions of matter and spirit is by asking how they came to be. That is, what is the cause or explanation of the existence of matter in Cavendish's system and the existence of spirit in Conway's system? For knowing the explanation or cause might give us some insight into the nature of the world. Once we have established this, we can then inquire more deeply into the nature of each type of substance. That is, we can examine its essence, properties, and powers.

In answer to the question, "Why does the world exist?" or more specifically, "What is the cause of the world?" both Cavendish and Conway answer by appeal to something outside the world—God. Cavendish claims that we can know that God created the world, even though matter is coeternal with God. However, we cannot know how God created matter. Moreover, she is committed to the claim that God, as an immaterial spirit, cannot interact with anything material except by miraculous means. She also believes that no created being can have an idea of God. She writes, "As for the idea of God, it is impossible to have a corporeal idea of an infinite incorporeal being; for though the finite parts of nature may have a perception or knowledge of the existence of God, yet they cannot possibly pattern or figure him, he being a supernatural, immaterial, and infinite being" (OEP 88).[1] Nature (her term for the world), according to Cavendish, is completely material. Nevertheless, she holds that God, in addition to creating eternal matter, also "creates" nature. In a certain sense, Cavendish's position on the creation of the world is similar to that of Aristotle's view of the prime mover who puts the eternally existing prime matter into motion.[2] Cavendish claims God's act of creation is something "supernatural," and so we cannot understand it through our senses or reason. Contrast this with Conway, who, as Sarah Hutton has

[1] Compare PL 139–40, where Cavendish argues that that no creature can have an idea of the essence of God. This is so because God is infinite and a finite being cannot have an idea of an infinite, and because God is immaterial and finite material beings cannot have an immaterial idea. Cavendish addresses the objection that we have at least one idea of an infinite since nature is infinite, by claiming that our ideas are part of infinite nature—that is, they are material parts of the material whole.

[2] Aristotle, *Complete Works of Aristotle*, *Physics*, bk. 8.

The Metaphysics of Margaret Cavendish and Anne Conway. Marcy P. Lascano, Oxford University Press.
 DOI: 10.1093/oso/9780197651636.003.0001

shown, employs a Platonic structure in her philosophy and who holds an emanative account of creation, similar to that of Plato's account in the *Timaeus*.[3] Conway argues that God creates living being from "time immemorial" continuously and infinitely, although creatures are not coeternal with God. God is outside of time, and creation unfolds in time.[4] According to Conway, we can know that God creates the world simply by focusing on his attributes. She maintains that it is the nature of God do as much good as he can; that is, to be a creator who has always been and will always be creating. In what follows, I will examine the views of Cavendish and Conway on the creation and nature of matter and spirit in more detail.

Worldmaking

Cavendish tells us that every part of nature knows that there is something above nature on which nature is dependent. However, she strictly limits appeals to God in explaining the workings of nature. She does this because she holds two closely connected views: (1) material entities and immaterial entities share no features in common and so cannot interact (except for God's unknowable act of creation), and (2) no material entity can understand the essence or nature of an immaterial entity. These two features are related because, for Cavendish, although via reason we can "guess at" the natures or essences of other material things due to their fundamental similarity to us and to one another, we cannot gain any information about nonmaterial things through our senses or through reason. Since we can have no perceptions of nonmaterial or immaterial entities, we have no basis for reasoning about their nature. We cannot even guess.[5] The most interesting consequence of this claim is that the no-interaction rule holds even for God after his initial creation of nature. This sets Cavendish apart from most of her contemporaries. For even those philosophers who objected to the possibility of Cartesian interaction between soul and body still held that God

[3] See Hutton, *Anne Conway*, 86–87 and 224–25; see also Plato, *Timaeus* 29e–33d, where Timaeus argues that God creates one living being.

[4] Thomas, "Space, Time, and Process," 990–1010.

[5] See Broad, *Women Philosophers*, 40–41. Cavendish is often considered by scholars to be more of a "rationalist" than an "empiricist," but the claim that reasoning cannot stretch much beyond the information provided by the senses with any certainty seems to undermine this commonly held view to some extent.

could move bodies. Cavendish, however, maintains that rather than moving bodies himself, God gives nature the power of self-motion.[6]

What Cavendish is happy to say about the relation of God to the world is simply that God is responsible for nature being the way that it is and that this means that nature cannot change from the way that it is. Nature cannot evolve or devolve into something other than a material, self-moving whole. So the upshot of Cavendish's commitment to God's "creation" is that it secures the unchangeable nature of self-moving matter in our world. We can know that the world will continue in the way that we now experience it. In fact, Cavendish thinks that all the possible forms of animals, plants, and minerals are in nature eternally. Nothing new is created and nothing ever goes completely out of existence. God provides the ultimate guarantee that nature is a stable and, in principle, knowable entity. But we as limited material entities cannot know more about God or about how he gave nature the power of self-motion than this. She writes,

> The action by which God created the World or made Nature, was it natural or supernatural? surely you will say it was a supernatural and God-like action, why then will you apply Natural Rules to a God-like and supernatural Action? For what Man knows, how and when God created Nature? (PL 15)

Of course, some commentators have tried to make more of Cavendish's discussions of nature's creation. For instance, Karen Detlefsen holds that God creates the world "by producing the order that eternal nature is guided by, and he could have done this by rationally suggesting this order to material nature. Given that nature is essentially rational, God's rational suggestion would be something nature could 'understand.'"[7] Deborah Boyle (building on Detlefsen's account) holds that God creates matter by a supernatural act, and then supplies nature with natural norms through rational suggestion.[8] The problem with both of these interpretations is that a rational suggestion from God to nature would count as an interaction. It is true that Cavendish says that God creates by fiat as it says in scripture, but she denies that we can really understand what that entails. For her, as Jacqueline Broad has noted, "Faith and reason are two contrary things."[9] Reason is used in natural

[6] See Shaheen, "Thrice Sensitive," for an account of how God is the cause of self-motion in the world.
[7] Detlefsen, "Margaret Cavendish," 431.
[8] Boyle, *The Well-Ordered Universe*, 81–85.
[9] Broad, *Women Philosophers*, 48.

philosophy to understand the world, but God and religion are a matter of faith.

Jonathan Shaheen has recently argued that God creates the world in the sense that he completely blends the three degrees of matter together.[10] This view would ensure that the world is uniformly moving and moved. While there is no text that directly claims that God's creation of nature consists of blending the degrees of matter, it is true that Cavendish thinks that the blending is what accounts for the fact that all things are moving. At the very least Shaheen is correct in thinking that God's creation involves motion. Cavendish frequently claims that God gives nature self-motion. For example,

> The first mover is none else but God, who may be called so, because he has endued nature with self-motion, and given it a principle of motion within itself, to move according as he has decreed and ordered it from all eternity: for God, being immovable and incorporeal, cannot actually move the universe, like the chief wheel in a watch. (OEP 269)

Earlier in the same text she writes, "God the author of nature, . . . [who] out of his infinite bounty gave nature the power of self-motion" (OEP 211).[11] Interestingly, she immediately follows this with the claim that nature is the true cause of all that happens in the world.

> But if anyone desire to know, what's then the true cause and principle of all nature's creatures and figures: I answer, In my opinion, it is not a spirit or immaterial substance, but matter. (OEP 211)

Cavendish's stance on the issue of what counts as the principal cause of things in the world will be discussed in detail in Chapter 5. But here I will note that Cavendish's murky views on God's creation of the world are indicative of her stance that the natural world is self-sustaining and that appeals to supernatural entities have no place in natural philosophy. This position puts her in line with Thomas Hobbes, who also held a strict boundary between theology and religion and natural philosophy.

Cavendish does tell us that everything in nature has some innate awareness of the fact that God exists, or that there is something greater than nature.

[10] Shaheen, "Thrice Sensitive," 8–9, 11–12, and 15–16.
[11] See also PL 95, 164.

Deborah Boyle has claimed that this knowledge is part of the self-knowledge that every portion of matter has. The importance of self-knowledge will be addressed more fully in Chapter 4. I take Cavendish's position on self-knowledge simply to be that every portion of matter knows how it is currently figured and moving and how it can move. This is important because, as we shall see later, any portion of matter can be a part of any type of entity that exists, and so it must have some knowledge of what sort of thing it is, or is a part of, at any given moment. However, Boyle takes self-knowledge to have three components: "knowledge of the existence of God; knowledge of what the bit of matter is currently doing; and knowledge of what that bit of matter *should* be doing."[12] However, Cavendish only claims that our knowledge of God's existence is something that God might have *also* given us.

> It is probable, that God having endued all parts of nature with self-knowledge, may have given them *also* an interior knowledge of himself, that is, of his existency, how he is the God of nature, and ought to be worshipped by her, as his eternal servant. (OEP 38; emphasis added)

Her argument here seems to be that if God can give every portion of matter self-knowledge, he can also give every portion knowledge of his existence. However, this is not to say that knowledge of his existence is a part of self-knowledge.

Cavendish claims that different kinds of entities have different understandings of God's existence and worship him in different ways according to their capacities. In her final work, she claims that "the human notions of God, man calls *conscience*" (GNP 248). Moreover, while Cavendish seems to accept the existence of devils, angels, and other spirits in her early works, she evinces skepticism about them in her later works. In *Philosophical Letters*, she writes that "as for Created Immaterial Spirits, as they call them, it may be questioned whether they be Immaterial" (PL 320; see also OEP 251). By the time we reach the *Grounds of Natural Philosophy*, she presents an argument that there can only be one immaterial spirit—God.

> I cannot conceive how an Immaterial can be in Nature: for, first, an Immaterial cannot, in my opinion, be naturally created; nor can I conceive

[12] Boyle, *The Well-Ordered Universe*, 78. For Boyle's defense of these claims, see *The Well-Ordered Universe*, chap. 4.

> how an Immaterial can produce particular Immaterial Souls, Spirits, or the like. Wherefore, an Immaterial, in my opinion, must be some uncreated Being; which can be no other than GOD alone. Wherefore, Created Spirits, and Spiritual Souls, are some other thing than an Immaterial: for surely, if there were any other Immaterial Beings, besides the Omnipotent God, those would be so near the Divine Essence of God, as to be petty gods; and numerous petty gods, would, almost, make the Power of an Infinite God. But, God is Omnipotent and, only God. (GNP 239)

The implication of this passage is that Cavendish has fully embraced the claim that what we call immaterial spirits are really some sort of material beings. She goes on to argue in the same appendix that if heaven and hell exist, they must be material places.[13]

We see Cavendish's position on immaterial entities change by the time of her publication of the *Grounds of Natural Philosophy*. Cavendish claims that God is the only possible immaterial entity and that the human conception of his existence is manifested in conscience. This is not to say that Cavendish was not a theist, but it should lead us to doubt that she had a robust conception of God or that he has any substantive role in her philosophical system.

Constituent Parts of Matter

What is the nature or essence of matter, according to Cavendish? To answer this question, it is important to consider some of Cavendish's contemporaries' views. This will also help situate Conway's views on spirit to some extent as well. First we should consider Descartes's views on the nature of matter and soul. According to Descartes, there are two types of substances in the world and these substances have opposing essences. Soul is essentially thinking and indivisible, while body is essentially extended and divisible. Souls are immaterial minds that are capable of moving from one thought to the next but have no extension. Bodies are material entities that have no self-motion or life and operate according to mechanical laws. Because souls and bodies share no attributes, Descartes was criticized for failing to demonstrate how

[13] Compare Hobbes's claims in *Leviathan* that heaven and hell are places on earth. He gives a textual analysis of the Bible to argue that heaven is somewhere near Jerusalem, and that hell is merely being separated from God (698–730). See also the Latin appendix to *Leviathan* for his claim that God is a body (1228).

minds and bodies could interact at all, particularly in the human being.[14] It was also fairly common at the time to think that Descartes had a problem with the transfer of motion from one body to another because motion is a mode of body and modes cannot move from one body to another.[15]

Two other philosophers whose views will be helpful here are Thomas Hobbes and Henry More. Hobbes was a materialist like Cavendish, but he held that matter operated in accordance with mechanistic laws. He defines body as that which fills some part of space.[16] Hobbes held that matter has magnitude (extension) and could be either at rest or in motion, but a change in its motion is always due to the motion of another body. Hobbes does not attribute self-motion to matter. Henry More had an ontology of spiritual substance. According to More, spirit is vital, extended, and indiscerpible (undividable) as well as capable of contraction and dilation, but matter is discerpible (divisible) into extended physical atoms. While Cavendish is committed to all of nature as material and infinitely divisible, she also believes that matter is self-moving, is capable of contraction and dilation, and is alive and perceptive.

Cavendish's ontology has two levels: the constituent level and the composed or effective level. We can think of these levels of ontology as similar to the subatomic level and the macro level of our current-day physics. At the constituent level (like our subatomic level) is the stuff that moves and combines into the familiar objects that we can see at the composed or effective level (the macro level). We never experience matter at the constituent level. But Cavendish believes that we can know things about it through inference to the best explanation.

While Cavendish is adamant that there is *only one matter*, at the constituent level, she holds that it is constituted by three degrees: rational animate, sensitive animate, and inanimate matter. This is the fundamental substantial stuff out of which the objects of our everyday experience (dogs, humans, chairs, etc.) are composed. I will return to the composed level of her ontology in Chapter 4. Here I concentrate of the constituent level and its three degrees of matter.

While Cavendish spends quite a bit of time discussing the qualities of these degrees of matter, it is important to keep in mind that the three degrees

[14] One notable critic was Elisabeth of Bohemia in her correspondence with Descartes. See Elisabeth of Bohemia and Descartes, *Correspondence*.

[15] I will discuss Cavendish's criticisms of Descartes in Chapter 7.

[16] Hobbes, *English Works*, 1:102.

are simply the identification of *gradations within matter*. That is, these are not distinct entities for Cavendish. There is only "one matter." While it is true that other possible worlds might not contain all the degrees of matter found in this world, this does not imply that these degrees are of a different kind. Just as we can imagine that a world might not contain all elements found in our world, we can imagine a world that does not contain all the degrees of matter found in our world.

However, if we understand that there are degrees of matter, we might ask, in what respect are they degrees? That is, how is it that matter comes in degrees? This important question has thus far been overlooked. We might wonder, for instance, whether Cavendish means that some degrees are more or less material. However, Cavendish holds that there are no immaterial or nonmaterial entities in nature, so this cannot be what she means when she says that matter comes in degrees. There is no sense in which something in nature is mostly material or somewhat material. So this should lead us to think that the degrees are not really degrees of *matter*, but degrees of some *way* that matter can be. It makes a lot of intuitive sense to think of the degrees as degrees of the *density* of matter. We might, for instance, think of inanimate matter as the most dense, heavy, bulky material and, at the other end of the spectrum, think of rational matter as the subtlest, lightest sort of matter possible. According to this interpretation, we would have a continuum of density within matter from the most solid to the most rarefied. Cavendish does sometimes talk this way. For instance, in *Philosophical Letters*, she tells us, "The truth is, the purity of reason is not so perspicuous and plain to sense, as sense is to reason, the sensitive matter being a grosser substance then the rational" (PL 449).[17] However, in her last work, *The Grounds of Natural Philosophy*, Cavendish clarifies her position.

> But, pray mistake me not, when I say, the Inanimate Parts are grosser; as if I meant, they were like some densed Creature; for, those are but *Effects*, and not Causes: but, *I mean gross, dull, heavy Parts, as, that they are not Self-moving; nor do I mean by Purity, Rarity; but Agility: for, Rare or Dense Parts, are Effects, and not Causes*: And therefore, if any should ask, Whether the Rational and Sensitive Parts were Rare, or Dense; I answer, *They may be Rare or Dense, according as they contract, or dilate their Parts*. (GNP 5; emphasis added)

[17] Cavendish does seem to hold prior to GNP that inanimate matter is bulky and that sensitive and rational matter is more refined and perhaps even imperceptible.

Here Cavendish makes clear that the degrees of matter are not degrees of density, but degrees of *motion*. According to Cavendish, density and rarity are *effects* of motion. So any portions of matter can be dense or rare depending on its current figurative motions. Cavendish claims that dilative motions cause less density, and contractive motions make matter denser. However, when we think of the essence or nature of the constituent parts (rational, sensitive, and inanimate matter), we see that rational matter is agile motion (she sometimes says "freer"), and the inanimate matter is not moving itself at all but is merely moved by the sensitive matter. So it seems that the correct way to conceive of the continuum of matter is that which moves the quickest and most diversely to, at the other limit, that which does not move itself at all. This interpretation is bolstered by the fact that Cavendish equates the animate degrees of matter with self-motion, and texts claiming this relation of identity appear as early as the 1663 edition of *Philosophical and Physical Opinions* and can be found in all her subsequent works.

> . . . the Extract of Infinite matter, which is an Animated matter, which Animate matter is Self-motion. (PPO 255)

> The Mind is Animate matter, and Animate matter is Self-motion. (PPO 296)

> . . . the Animate matter, which is Self-motion, which is the Sense and Knowledge. (PPO 298)

> By the animate Matter I do understand self-motion; and that I call this self-motion Matter, the reason is, that no body shall think as if self-motion were immaterial. (PL 532)

> The animate is nothing but self-motion; (I call it animate matter, by reason I cannot believe, as some do, that motion is immaterial, there being nothing belonging to nature which is not material, and therefore corporeal self-motion, or animate matter is to me one and the same). (OEP 205–6)

> Animate matter is (as I said before) nothing else but self-motion; which self-motion joined with inanimate matter, makes but one self-moving body. (OEP 207)

> For, though the Rational and Sensitive Parts, be of two sorts; yet, both sorts have Self-motion; so that they are but as one, as, that they are both Corporeal Motions. (GNP 20)

This strong equation of animate matter with self-motion implies that the degrees of matter are from the agile, self-moving rational, to the encumbered but still self-moving sensitive, and finally to the merely moved inanimate matter. The body of nature is always in motion, but the parts move in various ways with varying degrees of facility, and this fact about the world is due to the expression of the degrees of constituent matter in the figures of individuals.

The animate parts—rational and sensitive—are self-moving. However, inanimate matter, which has no self-motion, is only moved—but it is still moving at all times. According to Cavendish, it is the role of sensitive matter to move inanimate matter, and this slows sensitive matter down a bit. She calls the inanimate matter a "burden" that reduces the agility of sensitive matter. Cavendish provides an analogy for how the sensitive parts move the inanimate parts—they do so as a horse moves a rider or as a hand moves a stick. In discussing the way sensitive matter moves inanimate matter, she writes,

> The former thoughts answered, that they had resolved this question heretofore, by the example of a horse and a man, where the man was moved and carried along by the horse, without any communication or translation of motion from the horse into the man: Also a stick, said they, carried in a man's hand, goes along with the man, without receiving any motion from his hand. (OEP 27)

In these examples, we are to concentrate on the self-motion of the horse and the hand, whose motions are not transferred to the rider or stick. The rider and the stick are moved along with the forward momentum of the horse and man, respectively. This account of how the inanimate matter is moved may not be particularly satisfying. However, ultimately Cavendish appeals to the unity of matter ("only matter") to explain how the degrees move as one entity.

The next thing to consider regarding the degrees of matter is its arrangement. Cavendish tells us, as was mentioned above, that matter is in "complete mixture." "For there is such a commixture of animate and inanimate matter, that no particle in Nature can be conceived or imagined, which is not

composed of animate matter as well as of inanimate" (OEP 158). This commixture ensures that every degree of matter is contained in every portion of matter, even in the smallest atom (if such a thing were possible). She writes,

> Since Nature consists of a commixture of animate and inanimate matter, and is self-moving, there can be no part or particle of this composed body of Nature, were it an Atome, that may be call'd Inanimate, by reason there is none that has not its share of animate, as well as inanimate matter, and the commixture of these degrees being so close, it is impossible one should be without the other. (OEP 16)

Cavendish holds that the "doctrine of complete blending" entails that all three degrees of matter are contained in every portion of matter.[18]

As a result of this complete blending, "Infinite Matter in it self and its own essence is simple and 'homogeneous' " (OEP 199). The claim that all of matter is homogeneous has important consequences for understanding the composition of individuals in Cavendish's system. Since matter is homogeneous, it is not possible for a portion of matter to have more of one degree of matter than another—all parts must be the same. For instance, we might think that the difference between a human brain and a chair is that the brain has more rational matter than the chair and the chair has more inanimate matter than the brain. Cavendish sometimes talks this way.[19] However, this conflicts with the claims that every portion of matter contains all three degrees of matter and is a homogeneous blend of all three degrees. Thus, I conclude that Cavendish came to believe that the differences between the powers of individuals did not depend

[18] This term has become standard for Cavendish's view of the blending of matter since it was coined by O'Neill, "Introduction to OEP." This view is somewhat complicated by the fact that Cavendish also holds that matter is infinitely divisible. These facts might lead one to wonder whether Cavendish must be committed to overlapping or colocated parts. However, Jonathan Shaheen has recently argued that Cavendish's complete blending does not require matter to be colocated or overlapping. Instead, nature's infinite divisions are countered by infinite simultaneous compositions, so that no part of matter is ever infinitely divided. Here I agree with Shaheen, "Part of Nature," 3551–75.

[19] For instance, "As there is more Blood in some parts of the Body than in others, so there is more Animate Matter in some parts than in others, as some parts will have more Sensitive Animate matter than other parts, as the Sensitive passages, or those parts that have Appetites have more Sensitive matter than some other parts, so some parts have more Rational matter than other parts, as the Head, Heart, Liver, Womb, and the like; yet none of these parts is indued at all times alike, but sometimes more, and sometimes less, according to several Occasions, Ways, Accidents, and the like" (PPO 56). While I think there is a developmental story to tell here about how Cavendish has not yet fully formed the doctrine of complete blending at this point, I also think that this is an early attempt to grapple with the fact that some parts of bodies express rationality and sensitivity more than others. Certainly by 1664, she held the view that I am attributing to her.

on having more or less of one degree of matter. As she tells us, "There being a thorow mixture of animate, rational and sensitive, and inanimate matter, we cannot assign a certain seat or place to the rational, another to the sensitive, and another to the inanimate, but they are diffused and intermixt throughout all the body" (PL 112). Every portion of matter must have the same proportion of the degrees of matter, and the difference between the brain and the chair must lie in the power of certain corporeal figurative motions to exemplify or, as she says, "express" the features of the different degrees of matter.

> All things have Sense, by reason all things have Animate matter, and if all things or Creatures have Sensitive Animate matter, why not Rational Animate matter? for there is Infinite of every several sort of Only matter, as being no Limit of Infinite; if so, why may not Vegetables, Minerals, and Elements, have as much Animate matter, both Sensitive and Rational, as Animals? which is, to have a Sensitive Life, and Rational Knowledge, *only they want the Animal shape or Figure, and such sorts of Motions as are proper to the Animal Creature, to express their Sense and Knowledge in an Animal way*. (PPO 15; emphasis added)

> For one part of a mans body, as one hand, is not less sensible then the other, nor the heel less sensible then the heart, nor the legg less sensible then the head, but each part hath its sense and reason, and so consequently its sensitive and rational knowledg; and although they cannot talk or give intelligence to each other by speech, nevertheless each hath its own peculiar and particular knowledge, just as each particular man has his own particular knowledge, for one man's knowledge is not another man's knowledge; and if there be such a peculiar and particular knowledg in every several part of one animal creature, as man, well may there be such in Creatures of different kinds and sorts: . . . for Reason is the rational part of matter, and makes perception, observation, and intelligence different in every creature, and every sort of creatures, according to their proper natures. (PL 113–14)

> What necessity is there that they should have humane sense and reason? which is, that the rational and sensitive matter should act and move in them as she doth in man or animals: Certainly if there must be any variety in nature, it is requisite she should not; wherefore all Vegetables, Minerals, Elements, and Animals, have their proper motions different from each others, not onely in their kinds and sorts, but also in their particulars. (PL 193)

I am now attributing to Cavendish the view that the three degrees are blended in such a way that all three degrees are found in any given portion of matter, and in such a way that any proportionality that exists between the degrees is maintained throughout matter. Deborah Boyle compares Cavendish's view of the complete mixture of matter to cake batter: "Consider a bowl of cake batter, in which the ingredients have been completely blended; just as a cup, a half-cup, a tablespoon, and a teaspoon of the cake batter all contain a blend of all the ingredients, so, too, does the whole bowl of batter."[20] The analogy between the doctrine of complete mixture and cake batter nicely captures the way all the ingredients maintain their proportions in every portion of batter. However, Cavendish says more about complete mixture. It seems that, unlike cake batter, in the complete mixture of matter, each individual ingredient retains its own nature. For instance, in *Philosophical Letters*, she writes, "Neither would I have you scruple at it, when I say, that both parts or degrees of animate and inanimate matter do retain their own interior natures and proprieties in their commixture" (PL 532). So while it is true that every part of nature has all three degrees of matter, it is not the case that when the three degrees are blended together, any degree of matter loses its individual nature. In a cake mixture there is a chemical reaction between the baking powder and wet ingredients that make it disanalogous to Cavendish's blended matter. Instead of thinking of nature as like a cake batter, it is preferable to think of it as a homogenous mixture of the sort we find in chemistry. In such mixtures, two or more substances are combined so that the same proportions of the components are maintained throughout any given sample and are such that each substance retains its own chemical identity. Chemical bonds between the components are neither broken nor formed, although new physical properties may result from the mixture. While one might wonder about the utility of getting clear on this aspect of Cavendish's view, it is important to understand the nature of the relation between the degrees of matter to avoid confusion—there is no motion transfer or causation between the degrees at the constituent level. All of matter is one thing, so that the relation between the degrees is one of unity. We recognize that all of nature exhibits rationality and sensitivity, and so posit that these must be fundamental features of matter.

There are three further features of Cavendish's constitutive matter that must be understood. First, while we know that she thinks that the complete

[20] Boyle, *The Well-Ordered Universe*, 21.

mixture contains rational and sensitive animate matter and inanimate matter, we might wonder whether there is more of one degree of matter than the others. This has some bearing on how we understand the way composed bodies are made in her system. For instance, if there is more rational matter than inanimate matter, we might think that all individuals would be extremely agile and quick. In addition, Cavendish says that matter is infinite, so if there is more than one type of matter than another, in what way does it make sense to say so? Finally, we might wonder what Cavendish means when she claims that one part of matter is rational and another sensitive.

Cavendish explicitly says that there is infinite animate matter and infinite inanimate matter: "For as there is infinite unanimate matter, so there is Infinite Animate matter to make an equality" (PPO 9). In addition, she later claims that there are "infinite of every several sort of Only matter" (PPO 15). But the analogies she uses to discuss the three degrees would certainly lead one to believe that she thinks that there is more sensitive than rational matter and, perhaps, more inanimate matter than animate matter. Consider her frequently repeated claim that the three types of matter are analogous to an architect or designer, workmen, and the materials necessary to build a house. The rational is the designing part, and the sensitive matter is the part that works with the inanimate to form the structure.[21] It seems, at least, from experience, we understand that there are more builders than designers, and more materials than builders. If this is how Cavendish understands the proportionality of degrees of matter, then we have reason to think that although there is infinite of every degree of matter, there is "more" inanimate matter than animate matter, and more sensitive matter than rational matter. We can understand this sense of "more" in the same way that we can understand that there are infinite real numbers and infinite rational numbers, yet there are more real than rational numbers—infinitely many more.[22]

As was said above, Cavendish holds that rational and sensitive matter is self-moving, and then there is inanimate matter. That some matter is self-moving seems to be a brute fact for Cavendish. In her works through *Philosophical Letters*, Cavendish equates all life and knowledge with self-motion, but in her last two works—*Observations upon Experimental Philosophy* and *Grounds of Natural Philosophy*—she claims that inanimate matter also has life and self-knowledge. In these works, she claims that self-motion allows for an "active"

[21] For the architect analogy, see PL 151–52; OEP 99; and GNP 61.

[22] In addition, the rational numbers are dense in the real numbers, meaning you can take the smallest slice of the real numbers you please and you will have some rational numbers in there.

life and a "perceptive" knowledge. Nevertheless, Cavendish provides no explanation for why some matter is self-moving, although it is clear she thinks it is the best explanation of the natural world. As we will see, self-moving matter enables Cavendish to provide solutions to problems that she finds in the philosophy of her peers, including Hobbes and Descartes.

While Cavendish does not explain why some matter is self-moving, she does spend a fair amount of time explaining why some matter is not self-moving. Recall that Cavendish holds that the degrees of matter are degrees of motion. When Cavendish provides justification for the existence of matter that does not move itself, she argues that it is necessary to balance the degrees of self-moving matter. Reason is the most swift and agile motion, and sense, as experience shows, also is quick, according to Cavendish. Without inanimate matter, the sensitive matter might move as quickly as the rational matter and all things would happen "in an instant."[23] Cavendish equates reason with thought, which she seems to believe moves nearly instantaneously, and she claims that sense would move almost as quickly if it were not slowed down by its burden. However, things in our world seem to have a sort of permanence, as well as gradual growth and decay cycle that cannot be accommodated by the swift motions of sense and reason. In order for the world to exhibit the sort of gradual change and steady, or relatively steady, figures that it does, Cavendish holds, there must be matter that does not move itself but is only moved by other matter. Inanimate matter serves as the limit for moving matter.

David Cunning argues in his recent book, *Cavendish*, that "it is not clear why she posits inanimate matter."[24] Cunning suggests that Cavendish could make do with just the two types of animate matter if she held that sensitive matter (which he notes moves more slowly than the rational) "might exist on a continuum partaking of a spectrum of activity from minimal to moderate (but short of quick and agile)."[25] Cunning's criticisms of Cavendish's positing of inanimate matter are that (1) she does not give an explanation of how "an inanimate body would come to have motion that is not actually transferred," and (2) Cavendish holds that God would not create beings that are not "sophisticated and impressive" or not "able to perceive and worship God," but

[23] "This triumvirate of the degrees of matter, said they, is so necessary to balance and poise nature's actions, that otherwise the creatures which nature produces, would all be produced alike, and in an instant" (OEP 25–26).

[24] Cunning, *Cavendish*, 199.

[25] Cunning, *Cavendish*, 198. However, the sensitive matter only moves slower than the rational because it is burdened with the inanimate matter.

since inanimate bodies are not perceptive, they are neither impressive nor able to perceive and worship God.[26]

With respect to both of Cunning's objections, we first must understand that there are no inanimate "bodies" in Cavendish's system of nature. While inanimate matter is a constituent degree of matter, it is never an isolated part (as there are no isolated parts), nor can it compose a body on its own. The doctrine of complete mixture rules this out. So, with respect to his claim that Cavendish does not explain how inanimate body comes to have motion that is not transferred to it, we should simply point out that inanimate *matter*—not body—does not have its own motion. This is the point of claiming that each degree of matter maintains its own nature in complete mixture. Inanimate matter does not become animate matter. Rather, inanimate matter is surrounded by animate matter and is moved along with the self-moving matter. As she writes, "The inanimate works or moves with the animate, because of their close union and commixture" (PL 99).

As for the objection that inanimate body cannot perceive God and worship him, the problem is that bodies, for Cavendish, are always composed parts and are always composed of matter in complete mixture. Thus, all composed bodies are able to perceive God and worship him, in their own way and according to the capacities they have in their current configurations. Moreover, as mentioned above, Cavendish's mature view seems to be that inanimate matter does have life and knowledge.[27] Thus, Cavendish's view will not be subject to the worry that it is a problem for God to create something that lacks these properties. However, Cavendish is not committed to matter that lacks life and knowledge.

Finally, what does Cavendish mean when she says that matter has life and knowledge or sense and reason? While Cavendish is fond of playing on the ambiguity of "sense" and "reason," often claiming that according to her sense and reason some claim of other philosophers cannot be true, we should see this as one of her creative uses of language. When Cavendish speaks of reason in a more technical sense, she means a sort of process by which we use information received from the senses (or sense) to come to beliefs about the world or to imagine ways that the world might be. She often notes that reason in humans amounts to thoughts or thinking. Cavendish tells us that reason patterns the motions of the senses, and she refers to this as "double

[26] Cunning, *Cavendish*, 199.

[27] In her works through *Philosophical Letters*, Cavendish maintains that inanimate matter has no life or knowledge. However, in her last two works—*Observations upon Experimental Philosophy* and the *Grounds of Natural Philosophy*—she holds that inanimate matter does have life and self-knowledge, but that it does not have an *active* life or a *perceptive* knowledge, which require self-motion.

perception" (I will discuss this in Chapter 5). Cavendish does not take reason to be the product of innate knowledge or of some special power that allows us to grasp universal truths. Rather, it is often inductive or abductive reasoning that she seems to have in mind when she claims that reason can "guess at" things that we cannot fully understand through sense perception. Cavendish thinks that reason can provide us with thoughts that are not derived from the senses when we use our imagination, fancy, or in dreams. In this way, reason does to some extent outstrip our experience. However, Cavendish's general methodology in natural philosophy seems to be to observe the phenomena via the senses and then to use reason to "guess at" or hypothesize the causes. Since Cavendish holds that all things are sensing and reasoning in some way, she maintains that sense, which provides information about the world, is necessary for life and that reason is how we gain knowledge.

It is clear that Cavendish holds that motion is the most important feature of matter in our world. In Chapter 4, we will explore the ways in which Cavendish thinks this self-moving matter creates all the features of nature.

Cavendish and Atoms

Both Cavendish and Conway deny the possibility of atoms or indivisible parts, in addition to denying the existence of a vacuum or void.[28] Moreover, they have similar reasons for doing so. Cavendish argues that such things could eventually separate from the rest of matter and become "island universes." If portions of matter could exist alone, separated from the rest of matter, they would be unable to move or influence anything. This would make each portion of matter an independent world of its own. Conway also holds that such things would not be able to change and move or become better, which are essential features of creatures.

Cavendish's early poetry is atomistic. She discusses swarms of atoms and the void in these works.[29] However, when she further developed her own philosophical views, she rejected the claim that nature was constituted by atoms in the void.[30] Her main reasons for the denial of atoms seems to be that

[28] It was common in the period to either subscribe to atoms and the void in which they move, or to reject both.

[29] See *Poems and Fancies* (PF).

[30] For more on Cavendish's rejection of atomism see Boyle, *The Well-Ordered Universe*; Shaheen, "Part of Nature"; O'Neill, "Introduction to OEP"; and Detlefsen, "Atomism, Monism, and Causation."

such a world would not exhibit either the balance or the interdependence that we find in our world. Atoms, as independent entities, are self-complete, and as such their interactions with other parts of nature are uncoordinated and chancy in a way that Cavendish finds antithetical to the order, harmony, and balance we experience in nature.

According to Cavendish, although we call certain events "disorderly" or "chaotic," these events are necessary to balance the instances of uniformity in the world. Nature's processes involve cycles of growth and decay, sympathy and antipathy, and harmony and discord. Without decay, future growth would not be possible. Things form, grow, mature, and dissolve in the world. Once a particular entity ceases, new things compose out of the matter and the cycle begins again. There is a debate in the secondary literature about whether this disorder, according to Cavendish, is objective or merely subjective. Deborah Boyle has called the position, taken by David Cunning and Lisa Walters, that irregularities are, when considered from the standpoint of the whole of nature, not bad (and perhaps even good) the "No True Disorders View."[31] Boyle and Karen Detlefsen hold the "True Disorders View" and argue that nature lays down norms for the behavior of her parts. When parts do not move as they should, irregularity and disorder occur. This disorder is "real" in the sense that it constitutes a violation of the laws of nature no matter what perspective we take on it. Detlefsen argues that this interpretation is necessary in order to make sense of Cavendish's "normative" argument against atomism. She takes the following as an example of this argument in Cavendish:

> Were there a vacuum . . . a piece of the world would become a single particular world, not joining to any part besides itself; which would make a horrid confusion in nature, contrary to all sense and reason. (OEP 129)[32]

Detlefsen reads this argument as saying that if atoms existed, then there would be disorder in the world. Fair enough. But Detlefsen goes on to argue that Cavendish's view is actually that

> given that nature as a whole is infinitely wise and prescribes, from the top down, norms and standards of orderly and harmonious behaviour (nature

[31] Boyle, *The Well-Ordered Universe*, 24.
[32] Cited in Detlefsen, "Atomism, Monism, and Causation," 208. See also OEP 169, 207–8; GNP 4.

> as *morally* efficacious), an individual acting as if it were an atom—isolated from all others and bound by no overarching norms—would lead to disorder in its immediate environs at least.[33]

That is, Detlefsen claims that nature prescribes norms to her parts and that acting as if one were an atom is in violation of the norms that the body of nature prescribes. Detlefsen claims that all of nature's parts have libertarian free will to do as they wish, and that disorder occurs when parts of nature use this freedom to violate nature's norms. Detlefsen reads this argument as not an argument about matter, but an argument about normativity.

Deborah Boyle follows Detlefsen in holding that Cavendish posits a top-down normativity such that there are "natural rules" that the parts of nature *ought* to follow. She writes, "Cavendish's point is that irregularities occur when a *finite creature* does not *move* as Infinite Nature as a whole has deemed appropriate."[34] According to both Boyle and Detlefsen, Cavendish develops this top-down normativity as a rebuke of the lawlessness that atoms and the void would entail. While it seems clear that Cavendish does think that there are regularities in nature that cannot be best explained by atomism, it is not clear that she goes so far as to claim the sort of strong normativity posited by Detlefsen and Boyle. We will return to this issue in Chapters 2 and 5. For now, it is sufficient to say that one can reject atomism without positing a strong top-down normative system of laws. Cavendish's view that nature is a system of interconnected parts of a single whole is sufficient for producing the sort of balance and regularity she saw in the world. I read the argument above as saying that if nature consisted of atoms, whether those atoms have self-motion, life, and knowledge or not, these atoms would not be able to constitute a united whole. Instead, each is itself a whole. This is contrary to the interconnectedness that we find in nature. I take the following passage, which Detlefsen and Boyle take to indicate that Cavendish holds nature has norms for her parts and that the existence of atoms would invalidate such norms, to be further evidence that Cavendish's worry is about the lack of unity in atoms.

[33] Detlefsen, "Atomism, Monism, and Causation," 219. I will argue against the top-down view in Chapter 5.

[34] Boyle, "Informed by Sense," 28.

> For, if there can be no single parts, there cannot be Atomes in Nature, or else Nature would be like a Beggars coat full of lice; Neither would she be able to rule those wandering and stragling atomes, *because they are not parts of her body*, but each is a single body it self, *having no dependence upon each other*; Wherefore, if there should be a composition of Atomes, *it would not be a body* made of parts, but of so many whole and intire single bodies meeting together as a swarm of Bees: The truth is, every Atome being single, must be an absolute body by it self, and have an absolute power and knowledg; by which it would become a kind of a Deity. (OEP 129; emphasis added)

While Detlefsen and Boyle put the emphasis on the portion of the text that says nature would not be able to rule her parts if atoms existed, I find the repeated claims that atoms could not make up a unified body of nature to be the important point of this argument. I believe that this is a more natural reading of the text, which does not require positing a strong normativity that, I will argue, is not found in Cavendish. This reading is also more suitable to the sort of biological holism that Cavendish holds, and which will be discussed in greater detail in Chapter 2.

Conway on the Existence of the World

In contrast to Cavendish, Conway believes we can know quite a bit about God's nature and his act of creation. Conway does not provide an argument for God's existence. Rather she holds God's existence and nature as the fixed points from which all of her philosophical views follow. She claims that "from a serious and due consideration of the divine attributes (from which the truth of everything can be made clear, as if from a treasure house stored with riches)," we can derive truths about the world (P 7.2).[35] Included among these truths: creation is continual, the world is infinite in duration (although not coeternal with God, who is atemporal), indifference of will is an imperfection, there is no "dead matter," and evil is a mere privation. Given that

[35] All references to *The Principles of the Most Ancient and Modern Philosophy* are cited by chapter and section. I use the forthcoming English translation by Andrew Arlig, edited by Andrew Arlig, Christia Mercer, and Jasper Reid. I enjoyed the time I spent with them going through the Latin and am grateful that they have granted permission to use the yet unpublished translation. Since the translation used was not the final manuscript, there may be differences to the published version. I have also slightly modified some passages.

Conway maintains that these truths can be derived from God's nature, it is best to begin there.

While Conway holds the traditional view that God is an infinite, immutable, and perfect substance, she also emphasizes that God is spirit, life, and love.[36] It is through these latter properties that Conway derives some of her most distinctive metaphysical theses.

Conway maintains that God creates by emanation, and creation is a manifestation of his divine perfections, in particular, his goodness and wisdom. She writes, "The goodness of God is communicated and multiplied by his own nature, since in himself he lacks nothing."[37] God cannot multiply himself, because this would be to create more than one God, which Conway claims is absurd. God creates an infinite number of creatures from time everlasting. He does this by first emanating part of his nature into a "middle spirit," or "Christ," who then creates all other beings. Conway argues that if God did not continually create infinite infinities of creatures, then his goodness would be limited (P 2.4). Since his goodness is unlimited, Conway concludes that God always does as much as he can, or the best, for his creatures. Of course, there is a potential difficulty in claiming both that (1) God does the best for his creatures, and (2) for any number of creatures, it is always possible to create more. For it seems to follow that it is impossible for even an omnipotent being to do the best because he could always add one more good creature. Conway holds that God creates an infinite number of infinite creatures, and this might provide a solution to the problem. For if God creates an infinite set of good things, then it is impossible (for anyone) to add any further goods to the world. So God has done the best. Another possible solution is hinted at in Conway's claim that God is essentially a creator and is eternally creating. God's act of creation cannot be surpassed because he is continually creating infinitely many beings without end. The act, in a sense, is never completed and thus cannot ever become insufficient. God eternally creates

[36] Conway was introduced to Jewish Kabbalistic thought by Francis Mercury van Helmont. Her view that all things are spirit and living likely come from this influence. There are numerous references to the *Kabbala Denudata* in the *Principles*. However, in a recent article Jasper Reid has shown that these annotations were included by Francis Mercury van Helmont and Christian Knorr von Rosenroth. Many of these annotations refer to works that were not published till after Conway's death or directly contradict the arguments of the passages in which they are cited; see Reid, "Conway and Her Circle." For more on Conway's relationship with van Helmont and the Kabbalah, see Hutton, *Anne Conway* and Coudert, *Impact of the Kabbalah*.

[37] The emanation thesis can be traced back to Plato's *Timaeus* 29e–30c. For more on Conway's Platonism, see Hutton, "Plato and the Platonism," and Mercer, "Platonism" and "Seventeenth-Century Universal Sympathy."

infinite numbers of creatures at every temporal moment. It is impossible to do more. But it is also the case that Conway does not hold the view that mere being is good (a view held by the Scholastics). Thus, the mere addition of beings does not necessarily increase the goodness of the world. In order do that, God must create beings inclined toward the good, as he does.

When God creates, he emanates only some of his attributes into the world. According to Conway, there are two types of attributes in God: the communicable and the incommunicable. The incommunicable attributes are aseity, independence, immutability, absolute infinity, and perfection (P 7.2, 45). These attributes are incommunicable because giving them to another is conceptually impossible. For instance, God cannot produce a being that is independent, for the very notion of production entails a causal dependence. The attributes that God shares with creation are spirit, light, life, goodness, holiness, justice, and wisdom (P 7.2). Conway notes that all the communicable attributes are "alive and life itself," and every created being must share in some of the communicable attributes of God. Thus, according to Conway, every part of creation is living spirit. As we will see, Conway argues that this spirit has properties traditionally associated in the period with both mind or soul and body.

Because all things share in God's spirit, goodness, and life, Conway argues that there is no Cartesian, or "dead," matter because it would be incapable of achieving goodness. God emanates spirit, which comes in degrees of density, visibility, and mobility. She claims that the spirit that we perceive as dense and gross matter we call "body." (Conway uses the term "body" throughout her text, and I will follow her usage, but it is important to remember that body is merely dense, gross spirit.) All creatures must partake of some of God's attributes, but they also exhibit properties not found among them. For instance, body, motion, penetrability, and figure are not attributes of God. However, Conway maintains these properties are the result of the limitation of the finite forms into which the properties are emanated, and which serve only to distinguish creatures from their creator.

The Nature of Spirit

According to Conway, everything is spirit. But what does this mean? Let's begin with Conway's criticisms of the conception of matter, or body, in Hobbes, Descartes, and More. Conway argues that they are mistaken in their

conception of body or matter. In answer to the objection that her own philosophy is committed to all things being material or corporeal, like Hobbes, she writes,

> I reply that by "material" and "corporeal," and thus as well by "matter" and "body," I understand things that are by far different from what Hobbes understands and which would never have occurred to Hobbes or Descartes except perhaps in a dream. For what do they understand by "matter and "body"? What attributes do they ascribe to them? Clearly, none other than the following: extension and impenetrability, which really are but one attribute, just as both figurability and mobility can also be reduced to the former. However, if we were to suppose that these attributes are distinct, there surely would be no advantage to this, nor would they enable us to understand what this remarkable substance that they call body and matter is. For they do not proceed beyond the husk or shell; they never reach the core. They only touch the surface, never seeing the center. For they plainly ignore the most excellent and noblest attributes of the substance that they call matter and body, and they understand nothing of them. (P 9.6)

While Conway agrees with Hobbes that all things are convertible into one another, she does not think that body is in any way contrary to, or a distinct substance from, spirit.[38] Conway claims that Hobbes and Descartes "understand nothing" about the attributes of body because they only consider the external features of body—namely that bodies are extended and impenetrable to some degree. However, Conway thinks that these attributes are not the only, nor the most important, features that belong to bodies.

> But what are, one might ask, these more excellent attributes? I reply that they are the following: Spirit, or life, and light, under which I comprehend the capacity for all modes of sensing, perception, and cognition, and even of love and all the powers and virtues, joys and bounties which the noblest

[38] Hobbes was a strong influence on Conway. As Sarah Hutton notes, this influence likely came to her through her brother, John Finch, who admired Hobbes. See Hutton, *Anne Conway*, 103–12. In justifying her agreement with Hobbes on the subject of convertibility, Conway writes, "I respond by conceding that all creatures from the lowest to the highest are originally one substance, and that as a consequence they are convertible and capable of changing from one of their natures into the other. And although Hobbes says the same, this does not in any way tell against its truth, just as it is not the case that, in other parts of his Philosophy where Hobbes says something true, it is thereby a Hobbesianism" (P 9.4).

> creatures either have or could have, so that, even in the vilest and most contemptible creatures—even dust and sand—there should be this capacity for all of these perfections. (P 9.6)

What the others miss when they claim that body is not alive is the capacity for sensation, perception, and cognition of which all creatures are capable. These capacities enable creatures to love, be morally praiseworthy or blameworthy, and to improve. It is through these powers that one creature can affect and be affected by other creatures through vital motions. According to Conway, what we call body is really just crass, dense spirit. While we know that body is really spirit, more must be said to understand the nature of spirit.

Some commentators have taken Conway to be an idealist who holds that spirit is immaterial. Others, like Sarah Hutton, have argued that since God is "immaterial," likewise is creation.[39] However, Conway does not say that God is immaterial. She ascribes the view that God is "immaterial" or "incorporeal" spirit to Descartes (P 9.3) and uses the term "incorporeal" (*incorporeus*) to refer to God in an imagined objection to her denial that an immaterial spirit could move a body (P 8.3). However, when she introduces God's nature, she claims that "God is spirit, light, and life, infinitely wise, good, just, mighty (*validus*), omniscient, omnipresent, and omnipotent. He is the creator and maker of all things, both visible and invisible" (P 1.1). In the next section, she writes, "He has in himself neither darkness nor corporeality, and accordingly there will be no form, image, figure, or anything of this sort in him" (P 1.2). I take this to mean that God as a "pure spirit" has no dark, gross, crass spirit, or as she says he contains "no mixture." He completely lacks what we call "body." However, this does not mean that he is immaterial. Instead of thinking of things in terms of material or immaterial or body or soul, I believe, Conway radically denies the dichotomy. Unlike Cavendish, who accepts the possibility of otherworldly immaterial entities, Conway altogether denies the possibility that there are two types of substances. Conway's view is that spirit comes in degrees from the invisible to the limit that is visible gross dense spirit. This spirit is a unique substance that has the properties that we associate with minds and bodies, but which is neither immaterial nor material. Thinking that souls and bodies are actually two polar opposite types of substance—immaterial and material—is a mistake, according to Conway. Once we realize there is only one substance that comes in degrees

[39] Hutton, "Goodness in Conway's Metaphysics," 237.

so that it can seem to us to be immaterial or material, we will solve many of the problems that substance dualists have found impossible to remedy. That said, it is impossible to say more about the nature of spirit than to provide an account of its properties.

God is pure spirit, which is living, knowing, indivisible, infinite, and eternal. The properties of created spirit, according to Conway, are that it is living, perceptive and sensitive (or at least potentially perceptive and sensitive), extended, penetrable, and divisible. As Jacqueline Broad notes, "In [Conway's] view, there is no essential difference between spirit and body," for "they differ only modally: 'body is nothing but fixed and condensed spirit; and spirit is nothing but volatile body or body made subtle.'"[40] Conway writes,

> Every body is spirit and nothing else, and it differs in no way from spirit other than that it is darker. And thus the crasser that it becomes, the more spirit is moved down by a degree, so that the distinction is only modal or by degree (*graduales*), not essential or substantial. (P 6.11)

That all things are made from the same spiritual substance is supported by Conway's claim that "spirit and body are originally entirely one and the same in first substance" (P 9.1). Conway provides multiple arguments for the claim that spirit and body are merely different degrees of the same substance.

As has been noted, according to Conway, spirit comes in degrees—from the purest spirit to the most body-like. She explains that the more spiritual something is, the more life, swiftness of motion, penetrability, and "other perfections" it has (P 8.2).

God as the only perfect being is pure spirit. Medium being or Christ partakes of the nature of both God and creature, and so in terms of degree of spirit lies somewhere between the two—although closer to God. Conway notes that this closeness should not be taken as a spatial distance, but as a degree of perfection. Creatures occupy a range on the scale. All creatures are capable of being as light and ethereal as an angel and as visibly dense and heavy as a stone or mineral.

In addition, Conway holds that there are limitations to the respect in which a creature can become more embodied, but there is no limit to the extent to which it can become more spiritual. This is so even though Conway

[40] Broad, *Women Philosophers*, 70. She quotes P 8.4.

believes that no creature can become middle spirit or God, for she claims that each is on an essentially different scale of being. Each scale is infinite, but some infinites are greater than others. Within their own infinite scale of being, all created beings can become infinitely more "light" and "spirit." The limits on darkness or embodiment, she argues, follow from the fact that God is infinitely light and there is no infinitely evil being in the world, as such a being would have nothing in common with God, which is impossible.

But given that God emanates all things, either directly or indirectly, we might think that Conway is committed to a contentious type of substance monism where creatures are merely parts of God. That is, we might think her view is fairly close to that of Spinoza. Kant, for instance, suggests that anything that necessarily follows from a necessary being is in itself immanent and necessary, and he argues that this leads to necessitarianism and Spinozism. For what is there to distinguish these necessary emanations from the other properties of the emanator?[41] We will return to this worry in Chapter 2, but for now it will suffice to say that Conway insists that God, medium being, and creatures are distinct. They are distinguished by their ability to change.

First, God is unchangeable. He neither gains nor loses any of his properties, nor does he ever have more or less of a given attribute. For instance, one might think that God is not a creator until he creates or ceases to be one afterward, but Conway holds that God is always a creator and always creating. This action does not occur in time. Conway maintains that God exists in what we might call the eternal present.[42] All times are eternally present to God, but he exists outside of the temporal realm. While his act of creation is timeless, the results of his creation unfold in time. So God is unchanging in his total perfection, but the other two beings do change. Middle

[41] Kant states the objection as follows:

The system of emanation of the subtler kind, according to which God is regarded as the cause of substances by the necessity of his nature, has one ground of reason opposed to it, which at once overthrows it. This ground is taken from the nature of an absolutely necessary being and consists in the fact that the actions which an absolutely necessary being undertakes from the necessity of his nature can never be any but those internal actions which belong to the absolute necessity of its essence. For it is unthinkable that such a being should produce anything outside itself which is not also absolutely necessary. But how can something produced by something else be thought of as absolutely necessary? Yet if it is contingent, then how could it have emanated from a nature which is absolutely necessary? Every action performed by such a being from the necessity of its nature is immanent and can concern only its essence. Other things external to it can be produced by it only *per libertatem*, otherwise they are not things external to it but belong to the absolute necessity of its own essence and are therefore internal to it. RT 422–23 / AK 28:1092–93.

[42] Stump and Kretzman, "Eternity," 429–58. However, see Thomas, "Space, Time, and Process."

being can only change for the better, and creatures are capable of changing for the better or the worse. It is the essential nature of creatures that they are continually changing, according to Conway.

What are the qualities of created spirit? It is extended and divisible and can expand and contract so that it occupies more or less space.[43] She writes, "This does not stop us from seeing how a very small body can be extended into a space a thousand times larger than it had, as gunpowder when ignited expands miraculously" (P 7.4). This expansion creates places within the spirit where other spirits can dwell. This does not mean that it creates empty spaces within the spirit, for there is no vacuum, according to Conway. Rather, it creates very subtle spirit that is easily penetrable by other subtle spirits, although it is not completely empty.

> One must conclude from this that all created spirits, which are present in bodies, are either in the pores of those bodies or in certain concavitites, such as moles make in the earth; or else they make the bodies swell and acquire greater extension, as when a great amount of fire enters into iron and it becomes noticeably swollen and extended. (P 7.4)

As was mentioned above, spirit has properties that many of Conway's contemporaries associated with body. One of the issues that Conway discusses at length is whether her understanding of spirit admits of divisibility. As already mentioned, Descartes famously held that bodies are divisible and extended, but that spirit is indivisible and nonextended. Henry More, who thought that both spirit and body were extended, preferred to cash out the essential difference between spirit and body in terms of penetrability and discerpibility (the ability of something to have a piece torn away from it). More held that spirit is indiscerpible and penetrable, while body is discerpible and impenetrable. Conway argues that what we call "body" and "spirit" are merely different degrees of the same thing, all of which is extended, and which is discerpible and penetrable in varying degrees or ways. She claims that body, which is the grosser, denser sort of spirit, is not penetrable by something equally gross and dense. She provides an example of fire penetrating iron, which she thinks shows that all bodies are penetrable to some extent. While iron may not be penetrable by another piece of iron, it is certainly penetrable by fire. Conway also argues that spirit is

[43] Space only exists where body (spirit) exists. Thus, the expansion of body is an expansion of space.

infinitely discerpible or dividable. As we will see in the next section, although Conway's text includes a reference to a "physical monad," Conway rejects both atoms and the existence of a void or empty space—a view that we have seen Cavendish also holds.

Conway and Monads

While most commentators agree that Cavendish rejected atomism in her mature works, commentators have been divided on Conway's stance. Some commentators have held that Conway is committed to a type of spiritual atomism because the term "monad" appears in the *Principles*.[44] However, Jasper Reid has recently shown that the only instance of the term "physical monads" was likely added to her text by the editor, Francis Mercury van Helmont, and the translator, Christian Knorr von Rosenroth.[45] While many commentators have struggled to reconcile Conway's use of the term with the actual arguments in her texts, it is fairly obvious that she is in no way committed to either physical indivisible entities or spiritual atoms.[46]

Conway argues directly against Morean physical atoms in *Principles* 3.9. She uses More's argument from *Immortality* in favor of physical atoms as the basis of her criticism.[47]

> It has been our claim that even the smallest of creatures, no matter what sort one is able to ultimately conceive, has within it an infinity of creatures so that even the smallest particle of body or matter can be extended and divided in an infinity of ways into ever smaller and smaller parts, and even into more minuscule ones. In opposition to this, some have formulated the following objection.
>
> (1) That which is actually divisible as far as an actual division can in any way be made, is divisible into indiscerpible parts.

[44] For instance, Merchant, "Vitalism of Anne Conway," 255–69; Hutton, "Anne Conway"; and Thomas, "Time, Space and Process," 992, 995, and 1006.

[45] Reid, "Conway and Her Circle," 693–701. This article lays out Conway's arguments against More and provides an excellent account of why we should not think that Conway inserted the term "monad" into her text. Reid also provides convincing evidence that the annotations and references to the Kabbalah are likely not from Conway.

[46] Her friend and mentor, Henry More, was committed to physical atoms, as we will see. Leibniz is the most famous proponent of spiritual atoms, but while he read Conway's work, she was deceased before he began using the term.

[47] More, *Immortality*, preface, sec. 3.

> (2) But matter, or rather body (that is, is integral or compound matter), is actually divisible as far as an actual division can in anyway be made. Therefore, etc. (P 3.9)

Conway objects that More's use of the term "actual division" is contradictory since it implies that something is both divided and merely able to be divided. She argues that if you read the argument as saying that the thing is divided, then "(2) is false, because matter is never actually divided all the way to the point that an actual division can in any way be made" (P 3.9). That is, she claims that nothing in nature can make a division of an atom. In support of this claim she writes,

> Here I want to point something out: When I say that a smallest particle of body, or so-called matter is always divisible into smaller parts *ad infinitum*, and thus, that no division can actually be made in matter such that it is not divisible further, or capable of being divided into smaller particles, and this without end; in doing so I am not placing limits on what the absolute power of God can or would do (as some argue inanely and in a crass manner). I only mean to arrive at what the power of God may or would do. . . . Moreover, the body of any creature can never be reduced to its minima; indeed, it cannot be reduced that far by the subtlest operations of any creature or created power. (P 3.9)

Conway makes it clear that there is no way for creatures to accomplish the division of a body such that the body would become indivisible. However, Conway does not deign to suppose that God could not directly cause a body to be such. This, however, would not be a natural action because it would require the direct intervention of God into the world. It would take a miracle. Moreover, she believes that God would not do it because

> in that case, every motion and operation in creatures would cease. (For it is the nature of every motion that it wear down and divide something into its subtlest parts.) This would bring about something contrary to the wisdom and goodness of God. For if every motion or operation were to cease in any creature, this creature would be altogether superfluous in creation, and this would be no better than if it were to be merely nothing at all and pure non-being. (P 3.9)

As mentioned earlier, according to Conway it is the nature of creatures to always be in motion and to be always changing. This is so because their nature allows them to continually freely choose what they will desire and love. We will further examine the connection between freedom and motion in Chapters 6 and 7. However, it is important to note that for Conway our moral choices affect our standing on the ladder of being.[48]

Conway argues that if we take the term "actually divisible" to mean "is capable of division," then "in this case, I deny the major (1), which now states that what is divisible to the extent that there can be a division, is divisible into indiscerpible parts. Moreover, taken in this sense, the proposition is merely tautological" (P 3.9). Here, Conway argues that the claim amounts to saying that whatever can be divided, insofar as it can be divided, is divided to that extent. Thus, the tautology.

Conway's text makes it clear that she holds that spirit is infinitely divisible and that the world is completely full of spirit with spirits within spirits ad infinitum.

> Each creature, even the smallest one that we can discern with our eyes or conceive with our minds, is such that it has within it such an infinity of parts—or rather of complete creatures—that they cannot be counted. . . . And just as no creature can be so small that one cannot always find a smaller one, no creature is so big that a larger one could not always exist. It follows that an infinity of creatures can be contained and exist in the smallest of creatures, and all of these can be bodies and in their own way be impenetrable to each other. As for those creatures that are spirits and are capable of penetrating each other, in each created spirit there can be an infinity of spirits, and all of these spirits will be of equal extension as much with the aforementioned spirit as with respect to each other. For in the case of spirits, some are subtler and more spiritual, and these penetrate the grosser and more corporeal ones. Hence, there can be no lack of space here such that one is forced to give way to another. . . . But this alone is sufficient here to demonstrate that in every creature, whether it be spirit or body, there is

[48] Another Platonic feature of Conway's view is her acceptance of the great chain or ladder of being with God at the top. God is the most real, full, or perfect being. The usual steps down go angels, humans, nonhuman animals, plants, minerals, modes, and properties. Lack of perfection is a privation of being, which places one lower on the chain or ladder. Thus, to lack all perfection is to have no being—to be nothing.

> an infinity of creatures, and that, in turn, each of these has within itself an infinity, and each of those as well, and so on *ad infinitum*. (P 3.5).

As we will explore in more detail in Chapter 4, Conway holds that each individual creature is "microcosm" and that even the "central" or "principal" spirit of individuals is made of a multitude of spirits. Conway takes this multiplicity to be necessary for growth and change. She also maintains that if there were atoms, such a creature would not be able to receive a multitude of sensory information or help from its fellow creatures. In the same way, Cavendish holds that material beings contain parts the whole way down. Both philosophers reject atoms and the void because they believe that atoms are not sufficient to explain what they take to be the fundamental nature of the world we experience and because atoms are not capable of change and fellowship with other creatures.

In Chapter 2, we will examine the differences in their views about the unity and multiplicity of the world.

2

Wholes and Parts

Understanding the basic substances of matter and spirit takes us part of the way toward understanding the ontologies of Cavendish and Conway. In this chapter, we will consider in what way the world is a whole and how that whole relates to its parts. Various commentators have noted that both Cavendish and Conway are monists of some sort; that is, each believes that the world is one thing or entity in some way. But there are a number of ways in which this could be true. Both Cavendish and Conway believe there is only one type of substance—matter or spirit, respectively. But the issue under consideration here is in what way they believe there is unity in the world and in what way is there multiplicity. For even if both believe that the world consists of one basic substance, it is still true that we experience the world as containing a great variety of things. This unity and multiplicity might be explained, for example, by the fact that there is only one type of substance that is physical atoms, and these physical atoms might combine in various ways to create the objects of our everyday experience. If this were so, it would be correct to say that there is only one type of substance, but we would not say that there is one basic concrete entity. This would constitute a type of substance monism (only one type of fundamental entity) and existence pluralism (there are many existents in the world). In what follows, I will argue that in addition to being substance monists, both Cavendish and Conway are "priority" monists. Each takes the world to be a causally integrated system, where the whole is prior to the parts and those parts are dependent upon the whole.

Cavendish's Monism

As we have seen, even though Cavendish holds that there are three degrees in matter, she maintains that there is only one matter. Because of this, I take Cavendish to be a substance monist. That is, there is one type of substance in the world—matter. This is one way in which she is a monist. In addition, Cavendish holds that this matter constitutes one basic entity—nature.

The Metaphysics of Margaret Cavendish and Anne Conway. Marcy P. Lascano, Oxford University Press.
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Nature, as we will see in more detail in Chapter 5, is a causally integrated whole. Cavendish does not posit laws of nature. She does claim, however, that nature has but one rule, which is to "keep the peace." By this, she means that nature is balanced in a way that prevents it from running to extremes. This is accomplished through her view that all of nature is one body.

> There is infinite nature, which may be called general nature, or nature in general, which includes and comprehends all the effects and creatures that lie within her, and belong to her, as being parts of her own self-moving body. (OEP 197)

This body maintains its unity by one of the general motions of nature.[1] According to Cavendish, self-moving matter's primary motions are composition and division. But composition and division always happen simultaneously. When one portion of matter divides from another bit of matter, it simultaneously joins with another portion of matter. This prevents any one portion of matter from being infinitely divided or infinitely increased. As we saw earlier, Cavendish maintains that there is no vacuum in nature, so parts of matter are never isolated from other parts of matter. The body of nature maintains itself as a unity through the continual divisions and immediate compositions of its parts.

The parts of nature are constantly moving and changing, and, as we will see in Chapter 4, these changes result in the various kinds and sorts of entities that we recognize in the world. But these creatures that "lie within" nature are mere "effects" or "parts" of nature.

This brings us to another way in which Cavendish is a monist. She is a "priority monist."[2] Cavendish is clearly committed to the following defining features of priority monism. First, she holds that the parts of the self-moving body depend upon the whole for their existence and nature. Nature is prior to its parts, and it is through the general kinds of motions found in the whole of nature that discernible figures form. Second, she holds that because nature is an integrated whole, our understanding of any given part of nature is incomplete without reference to the system as a whole.

[1] The other ways that matter moves will be discussed in Chapter 3.

[2] See Schaffer, "Monism" and "Monism: The Priority of the Whole." Schaffer argues that the two features of priority monism common in the history of philosophy are that ontological dependence and priority relations hold between things, and that the cosmos is taken to be a mereological whole and all other entities are proper parts of the whole.

One might be tempted to attribute yet another kind of monism to Cavendish—neutral monism. Neutral monism is the view that the intrinsic nature of fundamental reality is neutral with respect to the mental and physical. According to this view, while there may be entities in the world that have mental and material features, these entities are derivative. The two most common ways of cashing out neutral monism are the Both View, where "a basic entity is neutral just in case it is intrinsically both mental and physical," and the Neither View, which claims that the "basic entity is neither mental nor physical."[3] It is clear that Cavendish does not hold the Neither View, as she clearly says that matter is the fundamental entity in her ontology. But one might think that the Both View is more promising. To apply this view to Cavendish, one would argue that matter or nature has both mental and material physical properties, so that the basic underlying stuff of the world is neutral with respect to these aspects. However, this would be to misunderstand Cavendish's view. Although it is true that matter has mental properties, this is only so because one of the degrees of matter has these properties and this degree has the properties it does in virtue of its material motions. Rather than saying that there is some way of thinking about the fundamental substance such that it appears at times mental and at other times material, Cavendish holds simply that matter thinks. That is, she is a property dualist. What is basic for Cavendish is matter, and she is in no way neutral about this. But the figurative motions of rational matter just are thoughts and other mental states. She writes,

> The *actions* of the rational part in Man, which is the Mind or Soul, are called Thoughts, or thoughtful perceptions. (PL 112; emphasis added)

> They say the Notions are Nothing, but I, an ignorant Woman, believe Notions to be Something, for *Notions are Thoughts, and Thoughts is Animate matter, figured by Self-motions*. (PPO 88; emphasis added)

> Many wonder what Thoughts are, and how such Millions can be within so Little a Compass as the Brain. I answer, that a Little quantity of the *Rational Animate matter may make Millions of Figures, which Figures are Thoughts*. (PPO 266–67; emphasis added)

[3] Stubenberg, "Neutral Monism."

Since it is the figurative self-motions of rational matter that are thoughts for Cavendish, she does not hold an "aspect" view of the underlying basic substance of the world. For Cavendish, the entire world, thought included, is material.[4] Cavendish does not reject the dichotomy between matter and immaterial substance. She simply denies that immaterial substance can be part of material nature. She still maintains that immaterial substance might exist outside the world.

Cavendish sees nature as a body or organism. The whole of nature is a material, self-moving, living, knowing, sensing, and self-maintaining body. But this is not to say that nature is a person or a human.[5] While it is true that Cavendish often calls nature "she," and also claims she is "wise" (as was common in the period), we should not see nature as a single conscious being. Cavendish writes,

> For, as the Self-moving parts alter, or vary their Actions; so they alter and vary their Lives and Knowledges; but there cannot be an Infinite particular Knowledg, nor an Infinite particular Life; because matter is divisible and compoundable. (GNP 7)

The whole of nature is not a particular rational and sensitive being. However, Cavendish does claim that nature is self-knowing in that all her parts are aware of their current motions and figures, self-living in that all her parts are rational, and perceptive in that all her parts are sensitive. These features allow the order and distinct kinds and sorts of creatures we find in the world (GNP 7). So when Cavendish claims, for instance, that nature is wise, she is simply pointing to the orderliness we find in nature, not asserting that nature as a whole has a unified particular mind.[6] The fact that nature is not a goal-directed conscious person goes a long way toward understanding the lack of teleology in Cavendish's system. Unlike Conway, Cavendish does not suggest that nature has a plan or aim for creatures. The story that Cavendish tells about nature is simply that nature is infinite and eternal and will always be the self-moving entity that she is—her parts continually composing individuals and dissolving them. There is no hint of teleology in her system.

[4] It is also the case that Cavendish thinks that it is possible for there to be a material world without self-motion (the rational and sensitive degrees). Such a world would lack mental properties and "would be as a dull, indigested and unformed heap and chaos" (OEP 207).

[5] See Ankers, "Paradigms and Politics," for the view that Cavendish holds that nature is a *human* body.

[6] See Shaheen, "Thrice Sensitive."

Contrast this interpretation with Detlefsen (2009), who claims that Cavendish's system is teleological, and Boyle (2019), who claims nature is "unabashedly teleological." Both Detlefsen and Boyle posit teleology in Cavendish's system in order to explain disorder in the world. They claim that creatures are free to violate the God-given rules of nature. When creatures act in violation of these rules, they cause disorder in the otherwise orderly world. But if Cavendish's system is teleological in this way, we should know what the ends or purposes of individuals acting in accordance with rules are. Boyle raises this question but does not find a clear answer in the texts. Boyle discusses order, balance, and peace as possible ends, but concludes that the answer may be that God has some plan that is incomprehensible to humans.[7] If Cavendish thought that there was some goal or purpose in the natural world, it is likely that she would have mentioned it somewhere. This does not rule out that she may have held that there is a religious answer to this question. But that would not be something she would address in her philosophical system since she thought that theology and philosophy should be kept separate.[8]

Cavendishian Holism

Cavendish believes that the entire world is a whole, but her holism is closer to what we might now call "biological holism" rather than metaphysical holism. So while contemporary metaphysicians speak of holism as the view that there are properties of nature that are not the result of the fundamental parts and their relations, this is not Cavendish's view. Rather, Cavendish's view most closely resembles the sort of holism we see in the living sciences. This makes sense given that she believes that all of nature is a single living organism. According to this sort of holistic view, we cannot fully understand a part of the organism without reference to the whole system, as all the parts of the system are interconnected in such a way that individuals are, in some sense, incomplete when abstracted away from the whole. Cavendish frequently stresses the interdependence of the parts of nature. As she writes, "Not any natural part or creature can subsist single, and by it self, but requires assistance from others" (PL 451).

[7] Boyle, *The Well-Ordered Universe*, chap. 4.

[8] This, of course, did not prevent Cavendish from, for instance, claiming if heaven and hell exist, they must be material since creatures are material (GNP 261–62).

Nor does Cavendish's commitment to all of nature being a single organism commit her to strict top-down laws or causal structure. Since all of nature is an organism, we should think that causal relations happen at every level of the organism. Just as in an animal, the mind might at times direct the whole organism in certain ways, as when fleeing a perceived danger. But there are also causal relations that occur within a part of the body, as when hearts are pumping blood, and causal relations across parts of the body, as when digesting food. If nature, as a whole, is like an organism, we should not expect only top-down causation. This raises questions about thinking of nature as a lawgiver or rule provider for her parts.[9] Motion produces various types of causal systems and structures in bodies. Moreover, Cavendish holds that there are parts within parts, and these parts have their own motions and structures. Her view is that there are organism-like structures all the way down. She writes,

> For one Creature is not onely composed of Parts, but one Part lies within another, and one Figure within another, and one Motion within another. As for example, Animal Kind, have they not Internal and External Parts, and so Internal and External Motions? And are not Animals, Vegetables and Minerals inclosed in the Elements? (PL 5)

One might object that Cavendish cannot hold that there are bodies "all the way down" without running into the "division to dust" problem.[10] Cavendish is committed to the claim that nature is infinitely divisible. But if matter can be infinitely divided, then it might be that there can be no bodies at all in some sense. But as we have already seen, Cavendish holds that division and composition happen simultaneously.[11] So while nature is infinitely dividable, it is at the same time infinitely composable. This prevents matter from reaching a point where any particular bit is infinitely divided. Instead, Cavendish holds that bodies within the material plenum are formed by portions of matter moving in unison, creating figures and structures and dissolving these structures when they change their motions.

[9] This will be discussed in further detail in Chapter 5.

[10] Garber coins this term in discussing Leibniz's objections to Descartes's view that matter is mere infinitely dividable extension. See Garber, *Leibniz*, 62.

[11] See also Shaheen, "Thrice Sensitive."

> But some may say, If nature be but one body, and the infinite parts are all united into that same body; how comes it that there is such an opposition, strife and war, betwixt the parts of nature? I answer: Nature being material, is composable and dividable; and as composition is made by a mutual agreement of parts, so division is made by an opposition or strife betwixt parts; which opposition or division, doth not obstruct the union of nature, but, on the contrary, rather proves, that without an opposition of parts, there could not be a union or composition of so many several parts and creatures, nor no change or variety in nature; for if all the parts did unanimously conspire and agree in their motions, and move all but one way, there would be but one act or kind of motion in nature; whenas an opposition of some parts, and a mutual agreement of others, is not only the cause of the miraculous variety in nature, but it poises and balances, as it were, the corporeal figurative motions, which is the cause that nature is steady and fixt in herself, although her parts be in a perpetual motion. (OEP 119)

While parts in nature move, compose, and divide constantly, they do not disrupt the unity of the body of nature. In this passage we see that Cavendish thinks that the dividing of bodies is necessary for the creation of new creatures and the overall balance we see in the organism of nature.

Conway and Monism

In Chapter 1, we saw that Conway holds that God is essentially a creator and that he creates the world by emanating his communicable attributes to Christ or middle being, who in turn emanates these attributes to creation. Emanation views of creation sometimes are criticized for conflating God and the world. Conway denies that her account does this, and her contention that there are actually three substances that differ in essence has led to accusations of trialism, rather than attributions of monism. In this section, I will discuss the difficulties with these issues and provide a possible solution for Conway. We will then turn to the issue of what sort of monist Conway is and how she sees the structure of the world.

Emanation accounts of God's creation have often led to the accusation of Spinozism, or the claim that God and the world are identical, because the world is the result of God's emanating his own properties. For instance, Kant criticizes Leibniz's account as follows:

> The system of emanation of the subtler kind, according to which God is regarded as the cause of substances by the necessity of his nature, has one ground of reason opposed to it, which at once overthrows it. This ground is taken from the nature of an absolutely necessary being and consists in the fact that the actions which an absolutely necessary being undertakes from the necessity of his nature can never be any but those internal actions which belong to the absolute necessity of its essence. For it is unthinkable that such a being should produce anything outside itself which is not also absolutely necessary. But how can something produced by something else be thought of as absolutely necessary? Yet if it is contingent, then how could it have emanated from a nature which is absolutely necessary? Every action performed by such a being from the necessity of its nature is immanent and can concern only its essence. Other things external to it can be produced by it only *per libertatem*, otherwise they are not things external to it but belong to the absolute necessity of its own essence and are therefore internal to it. (RT 422–23 / AK 28:1092–93)[12]

Here Kant lays out the problem quite clearly. He claims that whatever follows necessarily from the nature of a necessary being is itself immanent, necessary, and essential to that being. If God's necessary nature entails the creation of the world, then God necessarily creates the world. If God necessarily creates the world, then the world is an immanent property of God, and so is part of his essence. According to Kant's criticism, Leibniz's claim that God creates because his goodness is necessarily diffusive has the result that the world is part of God's essence—a part of his goodness. This argument applies to Conway because she holds both that God creates by emanating his goodness and that it is "an essential attribute of God is to be a Creator" (P 2.5). But if it is the case that God necessarily emanates his properties into other forms, then these other forms seem to be immanent and essential properties of God. Conway is well aware of this kind of criticism. In Chapter 9 of the *Principles* she writes of Spinoza that he "confounds God and creature and makes only one being out of them" (P 9.3). And in an earlier section she explains,

> First, there are those who state that there is only one Entity (*Entitatem*) belonging to all things and that they are its proper and real parts. They

[12] Kant's objection might also be aimed at Spinoza. For a discussion of Conway's objections to Spinoza's monism, see Pugliese, "Monism and Individuation."

> confuse God and creatures, as if each of the two notions were only one Essence, with the result that sin and Demons are nothing other than parts, or at least modifications of the divine being. (P 6.5)

Here we see that Conway's worry is that if creatures were parts of God, then God would be partly sinful and evil. This, she believes, is not possible. Conway has two possible replies to the Kantian argument. First, she could accept the claim that "other things external to [God] can be produced by [God] only *per libertatem* [through liberty or free will], otherwise they are not things external to it but belong to the absolute necessity of its own essence and are therefore internal to it." Conway agrees that God creates from his own free will. But this may not help her, as Conway also holds (as we will see in greater detail in Chapter 6) that God is the most free being because he always acts in accordance with his wisdom and goodness. Thus, for Conway, God's act of freely willing the world is also an act done in accordance with the necessity of his nature. This is not an adequate reply to the Kantian worry, as it does not succeed in avoiding the identification of God and creature.

Her better reply involves the distinctions she makes between God, middle being, and creatures. Conway claims that, strictly speaking, what is *emanated* is God's triune nature—the Word or Logos, and the Spirit or Will. Middle being is the Word or Logos. So we can say that middle being (God in Christ), or the Word, is of the same substance as God insofar as we are considering middle being as part of God and not in its incarnate form. Conway also says that middle being is "generated," implying born out of God's substance, and thus is more like a "true son" of God. Of course, according to Conway even middle spirit only shares part of its nature with God. The other part of its nature is shared with creatures insofar as it is a different entity from God. Conway argues that God is completely immutable, but middle being is mutable in respect to the good (it can get better) and immutable in respect to evil. Creatures, as their name implies, are, strictly speaking, "created." Conway claims creatures are like "adopted" children. Creatures share part of their nature with middle being in that (1) they are emanated through him, which Conway thinks is properly called "creation," and (2) they share in mutability with him. Creatures, however, are completely mutable and constantly changing with respect to good and evil. In this way, she distinguishes between those that share the same substance—God and Christ in God—and those who share part of their natures—middle being and creatures. This may be sufficient to avoid that Kantian worry. Creatures are removed from God

in their natures and in their production in such a way that they are a distinct entity from God.[13] For it is clear that Conway does not believe that God is the only substance with all creation as his parts.

While these considerations may rule out a kind of Spinozistic monism, Conway's claim that there are three distinct beings has led some commentators to label Conway a trialist. Deborah Boyle writes,

> Conway is typically labeled a monist, but she actually identifies three fundamental species of substance, which differ according to their mutability. . . . These three types are, respectively, God, Christ, and creatures. Because the three substances differ in their essential attributes, Conway's view would more accurately be described as "trialism" than monism; still, she is indeed a monist at the level of created substance.[14]

And Justin Smith, in a review of Sarah Hutton's *Anne Conway: A Woman Philosopher*, claims that Conway is more properly considered a trialist than a monist. Smith writes,

> Conway would more appropriately be described as a "trialist" than a monist, for she believes that there are in fact three kinds of substance: God, which is unchanging; Christ, which can change, but only for the better; and finally all the created substances, which can change either for the better or the worse.[15]

As everyone seems to agree, Conway states that there are three beings. They are composed of the same stuff (spirit) but are differentiated by their ability to change. One might claim that Conway is still a monist with respect to the created world, as Boyle notes (although the case of Christ, or middle spirit, who is partly in the world, complicates things). But do we need to restrict ourselves to just creation in order to call Conway a monist? I think the temptation to mark Conway as a trialist rather than a monist is based on a particular conception of monism—existence monism. If we think that monism is the view that there is only one token entity, similar to Spinoza's view, then the

[13] Note that the distinction is not a "real distinction" in the sense that middle being and creatures could exist independently of God. One might think that God could exist independently of any creation (although Conway claims it is in God's essence to be a creator), but both middle being and creation are ontologically dependent upon God for their existence and nature.

[14] Boyle, "Spontaneous and Sexual Generation," 177.

[15] Smith, "Review of Anne Conway," 42.

fact that Conway claims there are three distinct entities will discount her as a monist. This seems to be what both Boyle and Smith have in mind. Conway claims that God is "in a proper and real sense an Essence or substance which is distinct from his creatures, even though not divided or separate from them" (P 1.3). So there is no doubt that Conway is not this sort of monist.

However, we need not ignore Conway's claim that God, middle spirit, and creation have essential differences, and are distinct entities, in order to classify her as a monist. Conway is not an existence monist, but still a monist in the sense she believes that all concrete objects fall under one highest type—spirit. As has been shown, spirit comes in degrees of purity, density, and visibility for Conway, and the three entities that she picks out in the world are constituted by these varying degrees of spirit. The first entity, God, is pure spirit without any "form, image, figure" and which is perfect and unchanging. The second entity, middle being, is part of God and part of the changeable world, and so is not pure spirit. Middle spirit is at some points denser "embodied" visible spirit and is mutable, but capable of changing only for the better. The third entity, creature, is such that it always has some dense spirit and is capable of changing into a darker gross spirit (which we call "body") and capable of becoming more refined spirit, although not ever as refined as middle being or God.

Conway's commitment to all things being spirit makes her a substance monist like Cavendish. She is committed to one underlying stuff in which all things participate. Like Cavendish, Conway's substance varies in a certain respect: spirit comes in degrees of density, purity, and visibility (for Cavendish, matter comes in degrees of motion). The degrees of spirit in middle being and creatures are due to a degradation of purity that results in denser and more visible spirit the further from pure spirit the being in question is. So, while it is true that Conway is an existence pluralist—she believes there are three distinct entities that exist in the world—she is a monist with respect to the substance they share. This, however, is not the only way in which Conway is a monist. As Emily Thomas has recently argued, Conway is also a priority monist.

Priority Monism

I have just argued that there is reason to understand Conway as a substance monist with respect to the highest category under which all beings fall, namely spirit, and as an existence pluralist with respect to how many

entities exist. But there is also scholarly debate about how to understand Conway's views on creation as one entity, given that she holds that there are infinitely many creatures in it. In a recent article, Jessica Gordon-Roth has argued that Conway "oscillates" between two different answers to the question of how many created substances there are in the world.[16] In order to explain Conway's seemingly conflicting claims, Gordon-Roth argues that if we consider this question from the viewpoint of God, there is only one entity, and if we consider it from the viewpoint of creatures, there are many entities. Gordon-Roth attempts to draw an analogy between the way God and creatures experience time in creation in order to justify her analysis. For God, creation is one eternal timeless action. But creatures experience creation as ongoing in time. This might indicate that Conway holds that creatures and God would also differently answer the question of whether there is one entity that is created or many. However, Emily Thomas has pointed out that there is no clear reason why creatures' existence in time would cause them to count the number of entities that exist differently than God counts them.[17] While it is true that Conway's text often moves freely between the term "creation" and the term "creatures," I agree with Thomas that there is a better explanation of Conway's positing of both unity and multiplicity in creation. As Thomas argues, Conway is a priority monist, and priority monism is compatible with holding existence pluralism—the view that many things exist.[18] For Conway, like Cavendish, there is one body of which all the individuals in the world are parts. Conway holds that

> God implanted in creatures a certain universal sympathy and mutual love, *so that all are members of one body*, and all (as I would put it) are siblings who have one, common Father—namely, God in Christ, the incarnate logos—and so as well one mother—that is, this one substance, or being, from which they proceeded and of which they are real parts and members. (P 6.4; emphasis added)

Thomas correctly identifies Conway as a priority monist with respect to creation, and she notes that creatures depend on God for their essence and existence rather than on the entity that is creation. Thomas writes,

[16] Gordon-Roth, "What Kind of Monist," 280–97.
[17] Thomas, "Conway as Priority Monist," 1–10.
[18] Thomas, "Conway as Priority Monist," 7.

> Conway (P 1.7) tells us creatures depend on God: "creatures have their essence and existence purely from him because God . . . wishes them to exist." Conway lists God's "incommunicable" attributes, attributes that God possesses yet creatures do not. Alongside "infinite" and "most perfect," she includes "independent." God does not depend on anything else for his existence, whereas everything else depends on God.[19]

But if we take God as the only entity upon which all creation depends for its nature and existence, then we will find ourselves backing into the Kantian problem again. While it is true that God is the first or ultimate cause of creation, and so also of the creatures within, what needs to be shown is the dependence of individual creatures upon the substance that is creation. I think that Conway does think that all individual creatures within the spiritual substance called "creation" are due to the arrangement of spirits in the single body of creation. Consider the following passages:

> There is in addition something of a universal love in all creatures for one another (when we are not attending to that great confusion that has now interceded due to transgression). Certainly, *this must proceed from the same foundation, namely, that all are one and the same by reason of their first substance and essence, as if they are parts or members of one body*. (P 7.3; emphasis added)

> The creature, or *the whole of creation, should be in its species one substance or essence, even though it may comprehend many individuals*, collected under their own subordinate species, that are modally but not substantially or essentially distinct from one another. (P 6.5)

> And just as a body, say, of a human or a beast, is nothing other than an innumerable multitude of bodies that have been compacted together into one and arranged in a certain order, so too and in a like manner the spirit of a human or beast is some innumerable multitude of spirits united together in the body. (P 6.11)

In these passages, Conway claims that all of creation is of one substance and essence and that it "comprehends" many individuals in within it. Moreover,

[19] Thomas, "Conway as Priority Monist," 7.

individuals are merely spirit "arranged in a certain order." This shows that Conway holds that the individuals in the world are arrangements of the substance that constitutes creation. That is, while individual creatures are not modes of God, they are modes of creation.

While some may be object to the notion that creatures are mere modes on the basis that they too have modes, there is a possible precedent for such a view with which Conway would have been familiar in Descartes's view of body.[20] One way of understanding Descartes's view of body is that there is only one material substance and individual bodies are mere modes of this substance. This might explain part of Conway's worries about her philosophy being like Spinoza's views, in that like him, she also takes created beings to be modes. Her defense against the charge of Spinozism is that through all their changes no creature will ever become perfect and immutable. That is, the essence of creatures is mutability. However, Conway does not deny the claim that individual creatures are modes of creation. Conway shares other views with Descartes. Like Descartes, she holds a plenum view, although hers is a spiritual, rather than material, plenum. And as we will see, she also borrows from Descartes views from *La Dioptrique* in her account of motion.

Both Cavendish and Conway are substance monists and priority monists. In Chapter 3, we will explore the ways in which these substances move and change.

[20] I am not here suggesting that this is the way that Descartes understood individual bodies. For contemporary philosophers who take this view of Cartesian bodies, see Lennon, "The Eleatic Descartes"; Nelson and Smith, "Divisibility and Cartesian Extension"; and Sowaal, "Cartesian Bodies." For an account of Desgabets's acceptance of a single material substance determined by particular modal bodies, see Schmaltz, *Radical Cartesianism*, 99–102.

3

Life and Self-Motion

This chapter considers Cavendish's and Conway's accounts of self-motion. Both philosophers believe that all entities in the world are capable of moving themselves in nonmechanical ways. Both reject aspects of the accounts of motion given by philosophers such as Hobbes and Descartes. In what follows, I will discuss Cavendish's account of self-moving matter, in particular what kinds of self-motions there are in her system, and the implications of her account for the orderliness of the world. I will then turn to Conway's account of self-motion, which has received very little attention in the secondary literature. Here we will see that Conway accepts that mechanical or local motion does occur, but the motions that issue from the will and nature of a creature are vital motions. I will examine Conway's acceptance of motion as a mode of body—a notion that Cavendish rejects—and her account of how this mode can be transferred to other bodies.

Cavendish on Self-Motion

Why does Cavendish believe that nature is self-moving? The development of her metaphysics can be seen, in part, as a reaction to the deficiencies of mechanical accounts of nature that were given by philosophers like Thomas Hobbes and René Descartes. According to the mechanical account of nature, matter is not capable of self-motion, but God places a determinate amount of motion into matter at creation that is preserved through various impacts. In her *Philosophical Letters*, we see Cavendish's reaction to Hobbes's view of motion.

> Your author says, *He hath already clearly enough demonstrated, that there can be no beginning of motion, but from an external and moved body, and that heavy bodies being once cast upwards cannot be cast down again, but by external motion.* Truly, Madam, I will not speak of your Authors demonstrations, for it is done most by art, which I have no knowledg in,

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> but I think I have probably declared, that all the actions of nature are not forced by one part, driving, pressing, or shoving another, as a man doth a wheel-barrow, or a whip a horse; nor by reactions, as if men were at foot-ball or cuffs, or as men with carts meeting each other in a narrow lane. But to prove there is no self-motion in nature, he goes on and says; *To attribute to created bodies the power to move themselves, what is it else, then to say that there be creatures which have no dependance upon the Creator?* To which I answer, That if man. (who is but a single part of nature) hath given him by God the power and a free will of moving himself, why should not God give it to Nature? (PL 95)[1]

Here, Cavendish first declaims Hobbes's attempts to prove through demonstrations that motion is preserved, which she claims not to understand, and then she portrays the mechanical account of motion as objectionable through examples she finds antithetical to the numerous easy motions of nature. Finally, she wonders why philosophers should object to self-moving matter when they already hold that humans, who are just a part of nature, have been given self-motion.

Cavendish's often repeated objections to the mechanical philosophy include her worries about how motion is transferred and how mind-body interaction is possible on the Cartesian account as well as how causation and perception work according to the Hobbesian account. For the case of motion transfer, Cavendish thinks that Descartes is committed to the view that a mode of body must be transferred from one body to another when an impact occurs.[2] However, she claims that if this were so, then modes either would have to be immaterial in order to exist apart from body (and as a result cannot be properties of a body), or motion must be substantial rather than modal (PL 97–101). In the case of the Hobbesian account of perception, Cavendish objects to the idea that, for instance, the visual perception of an external object is caused by particles of matter coming from the object and striking the sensory organ, which motion is then carried via the nerves to the brain. Cavendish claims that Hobbes's impact account would lead to the sentient organs being "pressed to death." Her own account of self-moving matter gives her a way to solve these issues.[3]

[1] She cites Hobbes's *De Corpore*, Part IV, Chapter 30, Article 2 (EW 1:510).

[2] For more on Descartes's view of motion, see Garber, *Descartes' Metaphysical Physics*; Hattab, "Concurrence or Divergence?"; and Schmaltz, *Descartes on Causation.*

[3] I will return to these issues in Chapter 7.

For Cavendish, the problem of motion transfer just does not arise. All matter is self-moving, so there is no need for motion to transfer from one body to another. However, if motion does transfer from one body to another, Cavendish holds that matter must be transferred to the other body as well since motion is inseparable from body. While Cavendish claims that the transfer of substance and motion can occur when two bodies collide in such a way that some of the matter from one composes with the other, this is not how she believes most causation occurs (these issues will be the focus of Chapter 5). Instead, she is committed to a type of occasional causation. She claims that when, for instance a hand throws a ball, the motion and substance of the hand are not transferred to the ball (otherwise the hand would get smaller and the ball bigger with each throw!); rather, the ball moves by its own self-motion. Her account of occasional causation relies on the perceptive nature of matter. According to Cavendish, the ball has a certain type of perceptive power that is determined according to its internal and external corporeal figurative motions.[4] This allows the ball to perceive the exterior corporeal motions of the hand and to move itself accordingly. For Cavendish, all animal perception (likely) involves what she calls "patterning." This is simply the idea that the exterior object is patterned or imitated, that is, sensed, in the perceiver's own sensitive organs, which information is then (usually) patterned by the rational matter as a thought of the object (she calls this "double perception"). For Cavendish, both causation and perception can happen at a distance, as she says sight and hearing do, or by some sort of contact, as in the case of touch or taste.[5] Since each portion of matter, or

[4] The interior and exterior nature of different kinds of balls causes them to move in different ways. A football moves differently than a baseball due to its shape, materials, weight, etc.

[5] But cf. Cunning, *Cavendish*, 42–59. Cunning argues that Cavendish does not hold that there is action at a distance. He writes, "Cavendish supposes that in patterning (1) an external body comes into contact with a sense organ, (2) the external body presents an image of itself at the point of contact, and (3) the bodies of the sense organ adapt to the image and make a copy of it" (42), and "Cavendish assumes that material things interact with material things only and that interaction is always by contact. That is to say, there is no action at a distance. There might be apparent instances of action at a distance, but if interaction is always by contact, any case in which two distant bodies interact is a case in which there are contiguous bodies in between" (58). Cunning refines his view in "Ways of Knowing," where he claims that "an object is perceived at a distance—and almost all objects are at a distance—when the light and air surrounding the object patterns an image of it that reaches our sense organs via additional patterning still," (final draft, p. 4).

But note the following sample of passages in Cavendish: "And hence it follows, that some parts may make perceptions of distant parts, and not of neighbouring parts; and others again, may make perceptions of neighbouring or adjoining parts, and not of those that are distant: As for example, in the animal perception, taste and touch are only perceptions of adjoining objects, whenas sight and hearing do perceive at a distance; for if an object be immediately joined to the optic sense, it quite blinds it" (OEP 184); "Both the eye and the ear perceive at a distance" (OEP 160); "But yet, it is not necessary that perception must only be betwixt neighbouring or adjoining parts: for some parts may

individual, moves of its own self-motion, there is no need for contact for perception to occur via occasional causation.

Cavendish's rejection of the mechanical philosophy stems from her belief that what we observe in nature does not always seem to involve impact or force. Nature exemplifies mostly gradual motions and changes, and she argues that the order we observe requires the parts of nature to be perceptive. She believes that sensitive and rational self-moving matter is a better explanation for the effects we see in the world than the mechanical accounts offered by most of her contemporaries. She acknowledges that most people will not believe that self-moving matter exists because we cannot directly perceive it.

> This sensitive and rational self-moving Matter is the life and soul of Nature; But by reason this Matter is not subject to our gross senses, although our senses are subject to it, as being made, subsisting and acting through the power of its actions, we are not apt to believe it, no more then a simple Country-wench will believe, that Air is a substance, if she neither hear, see, smell, taste, or touch it, although Air touches and surrounds her: But yet the effects of this animate matter prove that there is such a matter. (PL 418)

What are the effects of animate matter? According to Cavendish, wherever we find motion, we can know there is sense, and that orderly motion indicates reason. This is so because portions of matter must accommodate each other in the plenum. As she says, if there were no sense and reason in portions of matter, "They could not move in a concord or harmony, not knowing what they are to do, or why, or whither they move" (OEP 258). Cavendish claims that animate matter is the cause of all variety and order in nature.

> That every part has not only sensitive, but also rational matter, is evident, not only by the bare motion in every part of nature, which cannot be without

very well perceive each other at a distance, and when other parts are between; nay, some perceptions do require a distance of the object: As for example, the optic perception in animals, as I have declared before" (OEP 167–68); and "They are out, that say, there can be no communication at a distance, unless by pressing and crowding; for the patterning of an outward object, may be done without any inforcement or disturbance, jogging or crowding, as I have declared heretofore; for the sensitive and rational motions in the sensitive and rational parts of matter in one creature, observing the exterior motions in outward objects, move accordingly, either regularly or irregularly in patterns; and if they have no exterior objects, as in dreams, they work by rote" (PL 182). In addition, there are several passages where Cavendish states that perception is not caused by "the medium"; in other words, it is not caused by light or air. See, for instance, PL 68, 73, and 510.

> sense, for wheresoever is motion, there's sense; but also by the regular, harmonious, and well-ordered actions of nature, which clearly demonstrates, that there must needs be reason as well as sense, in every part and particle of nature; for there can be no order, method or harmony, especially such as appears in the actions of nature, without there be reason to cause that order and harmony. (OEP 207)

Without animate matter nature would be "a dull, indigested and unformed heap and chaos" (OEP 207). Given that we experience the world as containing both variety and order, the best explanation is that the world is filled with rational and sensitive animate matter. This matter is the self-motion of nature.

Since she holds that nature is imbued with self-motion, Cavendish is able to explain phenomena that cause difficulties for her mechanist contemporaries. Self-moving matter is crucial to her account of causation, perception, action at a distance, and mind-body interaction.

The Power of Self-Motion

In a recent article, Alison Peterman notes, "Self-motion is the power that a bit of matter has to set itself in motion, and Cavendish frequently says that all actual motion is caused by self-motion."[6] Indeed, Cavendish distinguishes the power of self-motion and the motions of matter in several passages:

> For nature is infinite in power, as well as in act; we mean, for acting naturally; and therefore, whatsoever is not in present act, is in the power of infinite nature. (OEP 37)

> For, if that which is in power, may be deduced into act, I see no reason, but the world, which is nature, may be said infinite in act, as well as in power. (OEP 269)

> Nature must have both a United Knowledg, and a United Power. (GNP 11)

All of nature has the power of self-motion, and this power is the cause of all changes and alterations in nature. These changes and alterations are

[6] Peterman, "Margaret Cavendish on Motion," 27.

brought about by motions, or as Cavendish often calls them "corporeal figurative motions." Cavendish tells us that "motion is the action of a body" (OEP 268), and that there are infinitely many motions or changes that are due to the power of self-motion.

> For though I say in my Philosophical opinions, *As there is but one onely Matter, so there is but one onely Motion*; yet I do not mean, there is but one particular sort of motions . . . but that the nature of motion is one and the same, simple and intire in it self, that is, it is meer motion, or nothing else but corporeal motion; and that as there are infinite divisions or parts of matter, so there are infinite changes and varieties of motions. (PL 101)[7]

While the nature of motion itself is corporeal motion, that is, the self-motion of matter, there are infinitely many particular motions in the parts of matter as well as several different types of general motions in nature. What is important to note here is that Cavendish is trying to provide a metaphysics that will ground the phenomena we observe in the natural world. According to Cavendish, the parts and alterations of matter are the *effects* of motion. In a passage commenting on the methodology of Robert Boyle in his studies of natural philosophy, Cavendish notes the following:

> But give me leave to tell you, that I observe, he studies the different parts and alterations, more then the motions, which cause the alterations in those parts; whereas, did he study and observe the several and different motions in those parts, how they change in one and the same part, and how the different alterations in bodies are caused by the different motions of their parts, he might arrive to a vast knowledg by the means of his experiments. (PL 496)

Here Cavendish claims that studying the alterations and parts of bodies will not give you the best knowledge about how the bodies work.[8] Rather, one must study the motions that are the causes of the alterations in the parts of bodies. This clearly shows that it is motion that is primary for her. This can also be made clearer by understanding that if matter were not moving,

[7] Cavendish is referring to her statement in PPO 5.

[8] Boyle is following Francis Bacon's method from the *Novum Organon*. There Bacon notes that one should pay special attention to change in bodies when trying to discover their forms.

although it would be true that matter would still be dividable, there would be no changes in nature.

Because Cavendish holds that nature is infinite and eternal, the power of self-motion always has been in nature.[9] Cavendish is aware that her view might make it seem that nature is equal to God or uncreated. Yet she argues that there is nothing "atheistic" about it. As was noted in Chapter 1, Cavendish claims that God created nature by a supernatural act (which we cannot comprehend). Regardless of how God might create eternal matter and give it order, it is clear that Cavendish holds that God gives nature the power of self-motion.

> For though Matter is one and the same in its Nature, and never changes, yet the motions are various, which motions are the several actions of one and the same Natural Matter; and this is the cause of so many several Creatures; for self-moving matter by its self-moving power can act several ways, modes or manners; and had not natural matter a self-acting power, there could not be any variety in Nature; for Nature knows of no rest, there being no such thing as rest in Nature; but she is in a perpetual motion, *I mean self-motion, given her from God*. (PL 164; emphasis added)

Self-Motion

Cavendish can be rather evasive when discussing what self-motion is. For example,

> But you would fain know, how Nature, which is Infinite Matter, acts by self-motion? Truly Madam, you may as well ask any one part of your body, how every other part of your body acts, as to ask me, who am but a small part of Infinite Matter, how Nature works. (PL 415)

We might chalk this up to epistemic modesty, and, indeed, Cavendish often claims that a part of nature, such as a human, cannot know the whole of nature. So she does not tell us exactly how nature's power of self-motion is actualized. But she does provide us with an account of the general types

[9] For one of Cavendish's discussions about the eternity of nature see PL 113–17. For a discussion of Cavendish's views on nature's eternity see Boyle, "Margaret Cavendish," 111–30.

of motions that result from this power. For example, nature has "a self-power to contract and dilate, compose and divide, and move in any kind of motion whatsoever, as is requisite to the framing of any figure" (PL 512). Cavendish explains *how* nature moves—it composes and divides, contracts and dilates.[10] This has led some commentators to claim that all motion is really just a change in parthood relations for Cavendish. Alison Peterman has argued that Cavendish "reduces motion—and so all natural change—to changes in mereological facts."[11] However, it seems that there are some motions that do not involve change of parthood relations for Cavendish; in particular she notes that contraction, dilation, retention, and transformation may not involve a change in parts. Peterman argues that contraction and dilation do involve a change of parts. However, the passage she cites as evidence for dilation and contraction as an effect of parthood relations is not decisive. She quotes the following: "Wherefore all contraction and dilation consists of parts, as much as body doth; and there is no body that is not contractive and dilative, as well as it is dividable and composable" (OEP 124).[12] But in this section Cavendish is simply trying to argue that contraction and dilation belong to bodies and parts of matter and not "divine or supernatural things" (OEP 124).[13] Cavendish sums her views on dilation and contraction on the next page as follows:

> The extension [dilation] of a body, is not made by an addition or intermixture of foreign parts, as composition; nor contraction, by a diminution of its own parts, as division; *for dilation and composition, as also division and contraction, are different actions*: *the dilation of a body, is an extension of its own parts, but composition is an addition of foreign parts; and contraction although it makes a body less in magnitude, yet it loses nothing of its own parts*. (OEP 125; emphasis added)

In this passage, Cavendish clearly distinguishes contraction and dilation as motions different from composition and division on the basis that the

[10] Cavendish mentions also respiration, excretion, pressure, reaction, sympathy, antipathy, etc. However, these are just particular instances of composition and division. In addition, she often notes that composition and division are one action, which is necessary in order to keep nature a whole and to avoid a vacuum.

[11] Peterman, "Margaret Cavendish on Motion," 482.

[12] Peterman, "Margaret Cavendish on Motion," 485.

[13] This worry about contraction and dilation being immaterial is likely directed at Henry More, who was known for holding that the immaterial soul was extended and dilated and contracted as necessary to be colocated with the body.

former does not involve an addition or subtraction of parts. Peterman notes that Cavendish says, "There can be no contraction or dilation of a single part" (OEP 124).[14] But, of course, for Cavendish, this is true "by reason there is no such thing as a single or indivisible part in nature" (OEP 124). That is, nothing can happen in a single part because there are no atoms in nature. One of the difficulties in reading passages like these, of course, is that Cavendish's use of the term "part" is not always clear. Sometimes she uses it to refer to one or more of the three degrees (rational and sensitive animate and inanimate) of constituent matter as "the constituent parts," which when she is more careful she calls the "degrees," "sorts," or "kinds" of matter. Sometimes she refers to "composed or effective parts" of matter, which are the macro objects of our everyday experience and are produced by actual motions of composition and division. However, she sometimes also uses the term "parts" to mean something like *portions of matter*, as when she writes, "Parts are, as it were, the effects of body, by reason there is no body without parts" (OEP 124). This sort of claim is best read as saying that every portion of matter is divisible into parts and so all bodies have parts.

In addition to dilation and contraction, Cavendish also talks about transforming actions in a way that makes them sound as if they may not involve a change in mereological relations.

> But it is well to be observed, that there is great difference between the actions of Nature; for all actions are not generating, but some are patterning, and some transforming, and the like; and *as for the transforming action, that may be without translation, as being nothing else but a change of motions in one and the same part or parts of Matter, to wit, when the same parts of Matter do change into several figures, and return into the same figures again.* Also the action of Patterning is without Translation; for to pattern out, is nothing else but to imitate, and to make a figure in its own substance or parts of Matter like another figure. But in generation every producer doth transfer both Matter and Motion, that is, Corporeal Motion into the produced. (PL 420–21; emphasis added)[15]

[14] Peterman, "Margaret Cavendish on Motion," 485.

[15] It is hard to determine from the text if transformation is a unique kind of motion for Cavendish (one that does not involve composition and division), but it seems to operate within parts rather than create parts. Retention, on the other hand, which she claims is a motion that consists in the holding together of parts as they are, seems to be a distinct type of motion that does not involve change in parthood relations.

If translation is a motion that involves a change in the composition of matter, then Cavendish seems to hold that transformation occurs without it. It is certain that a change of parthood relations is an effect of the motions of composition and division for Cavendish, and that composition and division are, as she says, "the chief and general actions of nature"; it does not seem that they are the *only* actions or motions in nature. What we do know is that Cavendish thinks that the motions of composition and division work toward the creation of individuals, but dilation, contraction, transformation, and retention might be motions of parts that do not involve a change in a portion of matter in relation to other portions of matter. This would seem to tell against reducing Cavendishian motion to mere change of mereological facts.

When it comes to the specific actions of creatures, Cavendish claims that their actions and abilities are due to the self-motions of their parts. According to Cavendish, individuals, like animals, are generated by the transferring of matter from another being (or several others) and the gradual composition of additional matter, which is the growth of the individual. The initial transfer of matter and motion from members, or a particular member, of a natural kind determines the natural kind that the new individual will become. Cavendish claims that natural kinds have different powers of sense and reason according to their *corporeal figurative motions*.

When Cavendish says that bodily motion is figurative, she is not referring simply to the exterior shapes of things, but to three-dimensional (or four-dimensional) structural processes that are the "interior motions" and functional of parts, which determine the "external motions and shapes" of things like a human heart, a cat, or the chaff of wheat.[16] These structural processes determine the ways in which individual portions of matter are able to express rational and sensitive powers. For example, a particular portion of matter might form the figure of a human eye. Such a portion of matter will have interior motions that determine the matter to be structured as an eye, for example, containing a pupil, lens, retina, optic nerve, and so on.[17] In addition, the interior motions cause it to have the power of patterning external objects.

[16] In GNP 256–60, Cavendish implies that an individual is the collection of parts from its generation to its dissolution, which implies that the sequence of changes in portions of matter are part of what constitutes a particular individual. This will be discussed in detail in Chapter 4.

[17] Boyle notes that when Cavendish refers to "internal motions" that she means more than just motions "inside." Boyle takes these motions to be the inherent nature of a thing. See Boyle, *The Well-Ordered Universe*, 89. While we both agree that Cavendish holds that internal motions make a thing what it is, I believe that Cavendish is pointing to complicated structural processes in bodies that determine their ability to express their sensitive and rational abilities.

These interior motions determine the exterior shape and motions of the eye as well. Cavendish claims that the interior rational motions are what cause the structural processes of the eye, and the interior sensitive motions cause the perceptive abilities of the eye.

Cavendish is also committed to a transmutability thesis: any portion of matter can be transmuted by a change of interior motions from one type of thing (for example, a tree, a cat, or a heart) into any other type of thing (for example, a human, a goat, or a leaf). So while a portion of matter now may have the interior and exterior figurative motions of a human eye, that same portion of matter may be changed into a chipmunk's tail by means of a change in interior figurative motions. When it has the interior figurative motions of a chipmunk's tail, it will have the rational and sensitive powers appropriate to that kind.

In addition, Cavendish holds that one of the powers that all matter has is self-knowledge. Self-knowledge allows any particular portion of matter to know its current figurative motions and thus know how it is able to move and use its powers of sense and reason. Self-knowledge is a type of immediate interior knowledge for Cavendish that does not involve patterning. The transmutability of portions of matter make such knowledge of its current configuration necessary.

As we can see, for Cavendish all the powers of individuals arise from the self-motions of nature as a whole. As Cavendish says, "Self-moving matter by its self-moving power can act several ways, modes or manners; and had not natural matter a self-acting power, there could not be any variety in Nature" (PL 164). Next we will consider the ways in which the "infinite" self-moving power of nature is limited.

The Limits of the Power of Self-Motion

Cavendish tells us that the self-moving power of nature is infinite. But by this she does not believe that nature's power is "absolutely unlimited." Nature's infinite power allows her to perform an infinite number of actions, which Cavendish believes requires an infinite amount of time. But unlimited power is reserved for God. She writes,

> Indeed, to speak properly, there is no such thing as an absolute power in Nature; for though Nature hath power to move it self, yet not beyond it self.

> But mistake me not, for I mean by an absolute Power; not a circumscribed and limited, but an unlimited power, no ways bound or confined, but absolutely or every way Infinite, and there is not anything that has such an absolute power but God alone: neither can Nature be undividable, being Corporeal or Material; nor rest from motion being naturally self-moving, and in a perpetual motion. (PL 155)

Nature's power is limited to the power of self-motion and so is not "infinite in every way." Cavendish claims that nature is not able to rest or become immaterial or undividable. She also claims that nature cannot work or move beyond itself, by which she means that neither motion, nor any other "quality," as other philosophers call it, can be separated from matter, as it would make them nonmaterial.[18] Cavendish also holds that the parts of nature cannot be properly said to have infinite power.

> All these Infinite actions do belong to the Infinite body of nature, which being infinite in substance must also of necessity be infinite in its actions; but although these Infinite actions are inherent in the power of the Infinite substance of nature, yet they are never put in act in her parts, by reason there being contraries in nature, and every one of the aforementioned actions having its opposite, they do hinder and obstruct each other so, that none can actually run into infinite; for the Infinite degrees of compositions hinder the infinite degrees of divisions; and the infinite degrees of rarity, softness, swiftness, &c. hinder the infinite degrees of density, hardness, slowness, &c. (PL 134)

As Cavendish says, "Every part and particle of nature has the principle of motion within itself" (OEP 269). However, the actualization of the power of self-motion is often hindered in the parts of nature by other parts. This happens in two ways. The first is mentioned in the quotation above: nature's motions are balanced in such a way that every dividing motion is also a composing motion, and so forth; this is due to the fact that nature is a plenum lacking any vacuum or void. The second way is by some parts blocking or overpowering others. As David Cunning has pointed out, since nature is a plenum, sometimes parts are forced to move or unable to use their motive power due to the motions of other parts.[19] As Cavendish explains:

[18] This is to say that she denies the substance/accident distinction.
[19] Cunning, *Cavendish*, 157–60.

> Yet do I not say, That there is no hindrance, obstruction and opposition in nature; but as there is no particular Creature, that hath an absolute power of self-moving; so that Creature which hath the advantage of strength, subtilty, or policy, shape, or figure, and the like, may oppose and over-power another which is inferior to it, in all this; yet this hinderance and opposition doth not take away self-motion. (PL 95–96)

Sometimes other beings and objects prevent us from moving as we would like to move. Cavendish takes this to be something that we know through experience. While portions of matter always have self-motion, this does not prohibit other entities from thwarting particular movements. Portions of matter are limited in their movements by other portions of matter as well as by the general balancing motions of nature.

No parts of matter are ever able to fully actualize their power of self-motion. Cavendish holds that "act includes power, so power is nothing without act," which explains why she believes that the power of the parts of nature is not properly called infinite, although the power of the whole of nature is infinite (PL 488). Only nature as a whole can be said to have infinite power to move.

Self-Motion and Irregularity

Some motions are "regular" and some are "irregular." Cavendish refers to motions that are not usual or common as "irregular," and she tells us that irregularity is something that only applies only to parts of nature and not to nature as a whole.[20]

> Wherefore Irregularities do onely concern particular Creatures, not Infinite Nature; and the Irregularities of some parts may cause the Irregularities of other Parts, as the Regularities of some parts do cause the Regularities of others: And thus according as Regularities and Irregularities have power, they cause either Peace or War, Sickness or Health, Delight and Pleasure, or Grief and Pain, Life or Death, to particular Creatures or parts of Nature. (PL 238–39)

[20] For more on the debate about whether irregularities are "real" or only "apparent" in Cavendish, see Walters, *Margaret Cavendish*, 85–86; Cunning, *Cavendish*, 153–57; Detelefsen, "Reason and Freedom," 177; and Boyle, *The Well-Ordered Universe*, 23–29.

As mentioned in Chapter 1, Deborah Boyle and Karen Detlefsen have argued that Cavendish's view of irregularity is more robust than the account just given. Their interpretation of Cavendish is roughly this. First, Cavendish holds that nature has laws or norms (a top-down view) that all of her parts should follow. Cavendish attributes knowledge and sense to all parts of nature so that the parts may adhere to these God-given norms. Parts of nature also have a libertarian free will (an ability to do otherwise) that makes it possible for parts of nature to violate these laws or norms. Detlefsen has argued for this view based on the claim that parts must be able to choose (in this radical sense) in order to make sense of Cavendish's account of occasional causation. A violation of norms, according to Detlefsen, is a real disorder in nature, as the parts are moving other than they ought to move. This is the cause of irregularity. These irregularities are not merely harmful to particular individuals or from the viewpoint of these individuals but are really harmful or wrong or disordered from an objective standpoint. Finally, Detlefsen and Boyle maintain that nature is ends driven or teleological.

While it is true that some passages in Cavendish's corpus might tempt us toward a "real disorder" view, we will see that the overall interpretation of an ends-driven nature that requires both libertarian freedom and strong normativity has several disadvantages. First, it is not the case that Cavendish's account of occasional causation requires libertarian freedom, as will be demonstrated in Chapter 6. Second, if nature were to be ends driven, what are the ends toward which it is aiming? Cavendish never gives any indication that there is a goal or aim for nature other than "keeping the peace," nor does she claim that there is some sense in which nature evolves or develops. Rather, Cavendish's nature is perpetually moving eternal matter. There seems to be no goal or end to this process. Finally, as I have said above and as David Cunning argues, Cavendish defines irregularities as motions that are not usual or expected. In her *Philosophical Letters*, Cavendish dedicates her last letter to clarifying some of her views from *Philosophical and Physical Opinions*. In it, she writes, "Such actions which are different, cross and opposite, not moving always after their usual and accustomed way, I name Irregular, for want of a better expression; but properly there is no such thing as Irregularity in Nature" (PL 538–39). In addition, she writes earlier in the same text, "Regularity and irregularity hath but a respect to particulars, and to our conceptions, because those motions which move not after the ordinary, common or usual way or

manner, we call Irregular" (PL 360).[21] Cunning argues that in the passages where Cavendish discusses irregularities in a way that makes them seem real, we should keep in mind that Cavendish has already told us how she uses this term. Cavendish claims that the terms "regular" and "irregular" developed from the tendency of men to make categories and distinctions with respect to nature's motions.

> These motions and actions of Nature, since they are so infinitely various, when men chance to observe some of their variety, they call them by some proper name, to make a distinguishment, especially those motions which belong to the figure of their own kind; and therefore when they will express the motions of dissolution of their own figure, they call them Death; when they will express the motions of Production of their figure, they call them Conception and Generation; when they will express the motions proper for the Consistence, Continuance and Perfection of their Figure, they call them Health; but when they will express the motions contrary to these, they call them Sickness, Pain, Death, and the like: and hence comes also the difference between regular and irregular motions; for all those Motions that belong to the particular nature and consistence of any figure, they call regular, and those which are contrary to them, they call irregular. And thus you see, *Madam*, that there is no such thing in Nature, as Death, Sickness, Pain, Health, &c. but onely a variety and change of the corporeal motions, and that those words express nothing else but the variety of motions in Nature; for men are apt to make more distinctions then Nature doth. (PL 332–33)

[21] These passages are cited in Cunning, "Cavendish on Causation," 156–57. Both Cunning and I hold that nature is balanced with motions that sometimes are regular and sometimes irregular according to various individuals. But here I depart from what I take Cunning's view to be. While I believe that disorder is subjective, this is not simply a matter of human perspective or conceptions, as Cunning holds. Rather, whether a motion is regular or irregular is relative to the kind of thing one is. That is, whether something is an irregularity or a harm to an individual is dependent upon the constitution of that individual. It is irregular (and harmful) for me to have a parasite, but it is not irregular (or harmful) for a parasite to be in a human being. It is irregular and harmful for me to spend twenty minutes trying to breathe underwater; it is not so for a fish. In this way, we can see that motions like sickness and pain are irregular for humans, as their natural state is to be healthy and pain-free, but this does not mean that the motions themselves—considered qua motions—are irregular. These dividing, purging, dilating, and corroding motions are necessary in nature to balance the composing, retaining, contracting, and healing motions.

Conway on the Power of Self-Motion

Self-motion is important for Conway as it is the way in which creatures connect to other creatures and the way in which they change their moral and ontological status. The first question we will address is, how does motion originate in the world? We will then turn to issues concerning the power of self-motion, what motion is, how creatures move themselves, and how motion is transferred between creatures.

Jacqueline Broad has recently argued that even though Conway is not a dualist, she thinks "the soul and body are still utterly dissimilar in many respects . . . how does the lighter, nimbler, more active spiritual stuff move the hardened bodily stuff?"[22] Broad claims that for Conway the "soul" (or as Conway calls it the "central spirits") moves the body by emanation that originates with God through middle nature and then to creatures.[23] Thus, Broad appeals to God's continual creation in order to explain the motions of creatures. While Broad notes Conway's claim that the soul is able to move body because it is united with the grosser body by mediating bodies, Broad seems to think that the motion that emanates from God is doing the real work in Conway's account. Broad writes,

> When the soul moves the body via these gradated mediums, it is not, strictly speaking, the true author of the motion in the body; it is merely the means or the instrument for activating that motion. The original vital motion comes from the emanative influence of God through Middle Nature, and this motion is communicated to creatures because Middle Nature is immanent or intimately present in them.[24]

According to Broad's account, it appears that God (through middle nature) is doing the work of moving creatures. Souls (or central spirits) are merely "instruments" for activating motion, and creatures are moved because of the intimate presence of middle nature in them. I will come back to the way I believe motion is intimately present with creatures, but I will focus now on the sense in which motion comes from God. Broad's account brings Conway close to the views of philosophers like Malebranche, who thought

[22] Broad, "Conway and Charleton," 588.
[23] Broad, "Conway and Charleton," 571–91.
[24] Broad, "Conway and Charleton," 590.

that all token motions were caused directly by God and that creatures lacked all causal efficacy.[25] However, I think that this cannot be Conway's view. First, God cannot emanate motion since it is not one of his communicable attributes—indeed it is not one of his attributes at all. Conway maintains that God is "immutable in every manner" (P 9.5). If Conway were to hold that God emanates motion directly to creatures, she would have to present an account of how this is possible. She does not do so. Second, if God performed every token motion of creatures, then he would seem to be responsible for causing sin.[26] However, Conway maintains that sin is due to creatures alone.

> For even though *the power to move is from God*, in no sense is sin from God; it is from the Creature who has abused this power and has determined it towards something other than it ought. Thus, sin is *ataxia*, that is, an inordinate determination of a motion or power to move from a one's own obligatory place or state to another one. It is like this example: A boat is moved by the wind, but it is the sailor who determines that it should go to this or that place. In this case, the sailor is not the author or cause of the wind, but when the wind is blowing he merely uses it either well or badly. And when he guides the boat to its designated place, he is praised. But when he moves the boat into the shallows and causes it to shipwreck, he is blamed and is deserving of punishment. (P 8.2; emphasis added)

Here we see that Conway holds that sin is the improper use of a creature's *power to move or act*. God gives creatures the *power to move*, and whether they use this power well or badly determines their moral status. How does God give creatures the power of motion? Conway claims repeatedly that God gives creatures motion just as he gives them essence. That is, he creates their essence or nature, which, as Conway notes earlier in the *Principles*, is differentiated from God's essence by being mutable in every way.[27] As she notes, the motion

[25] Malebranche's *Search after Truth* was published in 1674, which is probably after the time that Conway wrote the *Principles*.

[26] Malebranche maintained that created beings "consent" to sin and this makes them responsible for their actions. Malebranche's struggles with reconciling freedom of will and occasionalism are considerable. See Schmaltz, "Malebranche," 41–52; Greenberg, "Things That Undermine," 113–40, and "Occasionalism, 151–86; and Peppers-Bates, *Nicolas Malebranche*.

[27] Consider the passage at P 8.2 for a challenge to my reading:

> For God's will, which gives essence to bodies, also gives to them motion, so that motion itself is from God, through whose will all motion happens. For just as creatures cannot give themselves essence, they also cannot move themselves. Rather, in him or through him we move, we live, and we are, and thus motion and essence flow forth from the same cause, God the creator, and he provides

> immediately from God (from whom it also gets its essence) and *which is a natural and proper effect of its essence*, is more properly speaking the proper motion of a creature, since it issues forth from its interior. Accordingly, it is called an internal motion. (P 9.9; emphasis added)

Vital motions are the effect of the essence of creatures, and in addition each species of creature has its own proper sorts of motions. So a horse will have a different set of proper interior motions than a human or a rock. While Conway does say that all motion comes from God, I believe she is best read as saying it is the power to move that comes from God. This power of motion is "essential differentia," or a "diversifying attribute," that results from the limitations of creatures. As we will see in Chapter 6, Conway holds that creatures determine their own self-motion via their libertarian free will.

But to return to Broad's initial worry about how a soul moves a body, I believe that Conway's answer to this question is that a soul can move a body because they are merely different degrees of the same thing. It is true that souls, or central spirits, are more refined than dense body, according to Conway, but they are not utterly dissimilar, as they are merely different degrees of spirit. Conway's answer to how a body is moved by soul or spirit is first that they are a *unity* and that the central spirits, which are the most refined spirits in an individual are connected to the dense spirits we call "body" by mediating spirits. As these spirits are united in one entity, motion passes easily throughout the parts of the creature. She writes,

> For example, suppose a wooden beam of some considerable length is moved at one of its ends from North to South. Of necessity, its other end will also be moved. This action is transmitted through the whole beam without any of the particles of matter being sent from one of the ends to the other in order to promote the motion, because the beam itself is by itself sufficient for transmitting the motion described.[28] (P 9.9)

motion to creatures even though he remains intrinsically immovable and is not moved from place to place, as he is equally present everywhere.

I read this passage as saying that God's continual creation and conservation is what sustains the power of motion in creatures. Without his continual creation, not only would the power of motion not exist, but no created being would exist. However, this does not mean that God or middle being performs every act token.

[28] Here, Conway uses an example similar to one from Descartes's *Optics*; see AT 84 / CSM 153.

While I believe that Conway's answer to how it is that a creature is able to move is fairly straightforward, her account of what motion is and how it is transferred to exterior bodies is more challenging. I turn to these issues now.

Two Types of Motion and Motion as a Mode

Conway's discussion of motion is difficult to follow, as it appears that sometimes she provides different accounts of the very same phenomenon. For instance, in some passages, she claims that motion is caused by resistance and in others she claims that motion is propagated by the emanation of subtle parts of creatures. This is made more difficult by her claim that mechanical and vital motions often work together. However, we can make her discussion clearer by focusing on the fact that it involves accounts of two types of motion—local and vital. If we track this distinction, we will see that her account of how spirit can move bodies via local or mechanical motion involves the notion of resistance, while her view of vital motions as emanations of creatures is essential to her account of perception.

Conway states that there are two types of motion in creatures: local or mechanical motions and vital motions. She defines local motion as "the transportation of a body from one place to another place" (P 9.9). She does not define vital motion but says that "it is by far a nobler and divine mode of operation than local motion," and she cites sense and perception as instances of vital motion (P 9.9). She also claims that vital motions make use of local motions, as their instruments and are inseparable from such motions. She demonstrates this with the example of an eye, noting that its vital motions require activation by the local motion of light (P 9.9). For instance, the ability of creatures to see external objects, which is a motion of life, requires the mechanical motion of light reflecting on the lenses of the eyes.

So, in addition to accepting, like Hobbes, Descartes, and others, that bodies are moved in a mechanical way, Conway, like Cavendish, thought that there were certain motions that were clearly nonmechanical and originate from the inner natures of beings in order to promote and maintain life. These vital motions are necessary for generation, growth, sense, perception, knowledge, and memory.

But exactly what is motion for Conway? Unlike Cavendish, Conway claims that motion is neither substance nor body. Instead, she argues, like Descartes, that motion is a mode of body. She explains that motions "are

nothing other than modes of created substances, viz. their strength, power, and virtue" (P 9.9).

But if motion is a mode of a particular body, how can motion be transferred to a different body? This issue was raised by Henry More in his correspondence with Descartes. Conway was well aware of it.

> And yet, precisely because a motion or action is not a substance or body, how it can be transmitted from one body to another is for many a subject of great debate. If it is only a mode of a body, and given that the essence or entity of a mode consists in inhering or existing in its body, how can a mode move from its proper subject to another? I reply with what seems to me to be the best response to this objection, which is this: a *motion is not propagated from one body to another by a local motion, since a motion itself is not moved; rather, it merely moves the body in which it is.* (P 9.9; emphasis added)

Conway denies that a local motion is transmitted to exterior bodies, for she believes that this would result in an infinite regress of local motions since this sort of motion must be begun by a different exterior local motion. She concludes, "Therefore, the mode of this propagation is through real production, or as I would call it, creation" (P 9.9). One body produces motion in another by real production, but what can this mean? Conway argues that motion as a mode is special in that it can do something that no created being can do—it can be intimately present in a body.

Conway defines intimate presence as when "a certain homogeneous substance might intrude upon another when both are of equal dimensions and yet they may not increase in bulk or quantities" (P 7.4). That is, intimate presence is an instance of colocation. As Broad notes, Conway was vehemently opposed to the idea that one created being might be intimately present in another created being.[29] Conway held that the only substances that could be intimately present in other substances were God and Christ. Broad details Conway's criticism of Walter Charleton's view that souls move bodies via intimate presence. However, Conway does think that *motion* can be in creatures via intimate presence. This is possible precisely because motion is neither a substance nor a body.

[29] Broad, "Conway and Charleton," 586–87.

> For a motion or action is not matter or substance of any kind; it is merely a mode of their being. Accordingly, it is intimately present in the subject whose mode it is, and it can pass from one body to another body up to a great distance, so long as there happens to be an appropriate medium through which it is transmitted. And the stronger the motion, the further it can reach. (P 9.9)

Motion is an action or change of a body. It is not some additional substance added to body. Motions require a medium through which they can travel to other bodies, but this does not mean that substance from the body that generates the motion is passed along with the motion. She illustrates this by providing an example of a stone causing motion through water.

> Thus, when a stone is thrown into stagnant water it causes a motion outward from the center to the circumference for quite a long distance by making ever bigger and bigger circles, in proportion to the length of its mode, until it disappears from our view. And then without a doubt it makes many more invisible circles for an even longer span of time, which we cannot apprehend because of the limitations of our senses. And this motion is transmitted from the center to the circumference without any body or substance bearing it, which conveys this motion with it from the stone. And so too external light, since it is merely an action or motion activated by some luminous body, can be transmitted through water, glass, crystal, or any other diaphanous body, but not by any substance, body or matter that has been thrown off from this luminous body from which the action so described got its start. (P 9.9)

Conway's account of motion as a mode of body echoes Descartes's account of light in his *La Dioptrique* (1637). Descartes describes light as a pressure wave that passes through a medium and allows our eyes to see the objects that are illuminated.[30] There he writes, "I would have you consider the light bodies we call 'luminous' to be nothing other than a certain movement, or very rapid and lively action, which passes toward our eyes through the medium of the air and other transparent bodies" (AT 84 / CSM 153). Descartes compares our sight via motion or light to the way a blind man may

[30] In addition to Descartes, Constance Huygens's *Traité de la Lumière* (1690) develops a wave theory of light, and Robert Hooke's *Micrographia* (1665) describes light as rapid vibrations propagated via a medium.

perceive objects via the use of a stick. He writes that the motion that is light is transferred through a medium to our eyes

> just as the movement or resistance of the bodies encountered by a blind man passes to his hand by means of his stick. In the first place, this will prevent you from finding it strange that this light can extend its rays instantaneously from the sun to us. For you know that the action by which we move one end of a stick must pass instantaneously to the other end, and that the action of light would have pass from the heavens to the earth in the same way even though the distance in this case is much greater than that between the ends of a stick. (AT 84 / CSM 153)

Likewise, Conway holds that motion, both mechanical and vital, travels through a suitable medium. As we have seen, she uses a piece of wood to demonstrate how the motion of a body can be instantaneously transferred from one end to the other. She notes that "in the same manner a vital action can proceed together with a local motion from one thing to another, and this up to a great distance, when there is an appropriate medium for transmitting it" (P 9.9).

Conway tells us that while crystal can magnify the action of light, despite its being a very hard substance, wood, which is much more porous and less dense, is not a fitting medium for the action or motion of light. Likewise, we should think that water is a fitting medium for motion, as in the case of the stone, and air is a proper medium for sound.

Unlike Descartes and More, who held that spirit is immaterial and completely penetrable, Conway holds that spirits have a degree of penetrability that allows them to move bodies. She provides an example to illustrate how the relative impenetrability of spirit may generate sufficient resistance to move a body.

> Were it not for this impenetrability, one creature could hardly move another, since the one could not press upon the other, nor could one in any way resist the other. We have an example of this in the case of the sail of a ship, by means of which the wind pushes the ship and the fewer holes, pores, and passages in the sail that it is pressing upon the more vehemently it does so. For, on the contrary, if in place of sails one unfolded nets through which the wind might freely pass, clearly the boat would barely be moved

> by the wind, even if it were blowing violently. Here, we see how impenetrability causes resistance and thus brings about motion. (P 8.1)

Since Conway maintains that spirit contains degrees of penetrability, it is possible for spirit to resist other spirts or bodies as well as move them. This allows her to maintain that local motion within bodies occurs through resistance and motion as a mode that is transferred between bodies acts as a pressure wave moving through those bodies without the transfer of any substance.

With respect to vital motions, she maintains that creatures are able to propagate their vital motion either via a suitable medium or by the emanation of subtle spirits.

> [A creature] can transmit its vital action in any direction it wishes so long as has a suitable medium (*medium dispositum*); and that, if it does not have one, it can extend itself through the subtle emanation of its parts, which is a medium for it that is most fitting and the most proper way to receive and transmit its vital action. (P 9.9)

These vital actions that are emitted from one individual to another are how creatures are able to affect one another by their sounds, appearances, smells, and other powers. Conway holds that vital motions can travel great distances instantaneously through bodies. In this way created beings can extend their sphere of influence and affect others through their "virtue, powers, and strength." Conway calls this the "virtual extension" of a creature. Creatures have both material and vital extension. She writes,

> Material extension is the one that matter, body, or the substance itself has when considered apart from every motion or action. This extension properly speaking is neither more nor less, but rather always remains the same. (P 9.9)

This material extension is just the amount of dense spirit or body that an individual creature has. This, according to Conway remains the same throughout the creature's existence, although creatures may dilate or expand without additional substance being added to them. Virtual extension, however, is something that changes depending on the kind of creature an

individual current is (i.e., what natural kind—stone, horse, man, etc.). Virtual extension is affected by two sources—God and other creatures. She writes,

> A virtual extension is a motion or action that a Creature possesses either as something immediately given to it by God or as something immediately received from one of its fellow creatures. The one that it gets immediately from God (from whom it also gets its essence) and which is a natural and proper effect of its essence, is more properly speaking the proper motion of a creature, since it issues forth from its interior. Accordingly, it is called an internal motion, and thus it should be distinguished from the external ones which are from something else and in view of this can be called foreign [motions]. (P 9.9)

God provides each kind of being the power to move that is natural for its kind. Foreign motions are motions from other creatures. Conway notes that virtual extension is

> more and less with respect to its species or degree of life, with which the creature being spoken about is endowed. For when a creature attains a nobler species and degree of life, it thereupon takes on a greater power and virtue for moving itself and transmitting its vital motions to the greatest distance. (P 9.9)

The degree of life a creature currently exemplifies reflects its place on the scale of being. The higher on the scale, the more power and strength a creature has to move itself and to affect others. This power can be used for good or ill. A creature can affect other creatures positively or negatively, and this has serious consequences for all parties involved (as we will see in more detail in Chapter 4). These powers are the direct result of the essence of the creature, and different creatures have different degrees of power as well as different sorts of virtues and strengths. Conway claims that any motions that are natural to a creature—those which are the effects of the essence given it by God—are actions that are interior motions as opposed to motions that are the result of the influence of other creatures. These "external or foreign" motions can again be either mechanical or vital. When they are vital motions from others, they are either such that we willingly accept them or not. When a motion from others attempts to force us to move unnaturally, this is a violent and merely mechanical motion.

> And when this external motion strives to shift a body, or some other thing, to a place to which it does not tend by its proper nature, then it is a violent and unnatural one. For example, when a stone is thrown up into the air, clearly this motion is violent and unnatural, and it is local and mechanical and in no way vital, since it does not proceed from the life of the thing thus moved. (P 9.9)

So, while creatures are capable of both mechanical and vital motions, only those interior motions that are willed by the creature are properly self-motions. The range of these motions is determined by the sort of life a creature currently inhabits and a creature's vital motions are necessary both for the sustaining the life of the creature and for cooperation with other creatures. In the next chapter we will further investigate the nature of individual creatures.

4

Individuals and Identity

As we saw in Chapter 2, Cavendish and Conway hold that everything is made of the same substantial stuff. In Cavendish's case, this substance is completely blended matter, and for Conway it is varying densities of spiritual substance. Moreover, both hold a transmutability thesis whereby every portion of matter or spirit can change from being one sort of thing to another sort of thing. For each of them the fundamental substance constitutes many kinds of things and many different individuals within those kinds. It is also true for each of them that when individuals dissolve or "die," their mater or spirit becomes a different individual or kind. In this chapter, we will focus on how individuals are generated, individuated, and persist through time.

Individuals in Cavendish

Given that Cavendish holds that there is only one substance—matter or nature—one might wonder how she explains the everyday objects of our experience, for example, tables, chairs, dogs, humans, and persons. We know that she does not view these objects as independent substances, but it does not follow from this that she denies the existence of real objects or entities. If she does acknowledge these entities, what is their status? Are the individuals of our everyday experience merely affections or accidents of the whole? Are they conventional objects? That is, are there no real divisions in nature, and the things we call "snakes" and "rocks" are just useful concepts for human understanding? Or are the parts of nature, although not independent substances, still in some sense real entities with objective features and boundaries? In what follows, I argue that Cavendish accepts the last option. I begin with an overview of her account of individuation and then turn to generation, identity over time, and death.

I have already noted that Cavendish's ontology has two levels. At the "constituent" level we find the three degrees of matter—rational animate, sensitive animate, and inanimate. At this level, every bit of matter is homogeneous, as

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it is a thorough blend of the three degrees.[1] However, since matter is self-moving, at the "effective" or "composed" level, we see constantly changing structures or, as she calls them, "figures," within matter.

> This is to be understood of the parts of the composed body of nature, which, as they are nature's creatures and effects, so they consist also of a commixture of the aforementioned degrees of animate and inanimate matter . . . [and] being effects of the body of nature, for distinction's sake may be called effective parts; but these, that is, the animate and inanimate, may be called constitutive parts of nature. (OEP 27)

Cavendish maintains that at the constituent level sensitive and rational matter are uniform; that is, the very same rational and sensitive matter is found everywhere and there are no degrees within them. However, at the composed level reason and sense are expressed differently depending on the composition of the entity. As the corporeal figurative motions are different in different natural kinds, so are the ways in which these natural kinds make use of sense and reason. She writes,

> Although sense and reason are the same in all creatures and parts of nature, not having any degrees in themselves, no more than self-knowledge hath; (for self-knowledge can but be self-knowledge, and sense and reason can but be sense and reason); yet they do not work in all parts of nature alike, but according as they are composed. (OEP 128)[2]

[1] As noted in Chapter 1, we do not have experience of matter as homogenous, nonfigured stuff because matter is always moving itself figuratively. Thus, what we experience are the entities that exist at the composed level. The constituent level can be thought of as similar to what we now think of as the subatomic level—the basic stuff that makes up everything.

[2] Cavendish argues that all creatures have reason and sense, but their ability to express them differs according to their kinds and sorts. She writes,

> Why may not Vegetables, Minerals, and Elements, have as much Animate matter, both Sensitive and Rational, as Animals? which is, to have a Sensitive Life, and Rational Knowledge, only they want the Animal shape or Figure, and such sorts of Motions as are proper to the Animal Creature, to express their Sense and Knowledge in an Animal way; for had Vegetables, Minerals, and Elements, the same Shape created by the Creator, which is the Animate matter and motion, there might be Vegetable, Mineral, and Elemental Men, Beasts, Fouls, and Fish, as also there might be Animal Vegetables, Minerals, and Elements. Wherefore, I cannot perceive in sense and reason, but there may be as many Several and Various Motions, and as much Vital or Sensitive Life, and as much Rational Knowledge in Vegetables, Minerals, and Elements, as in Animals, being all Created by Animate matter and motion, which is a Self-moving matter, only they want the Animal shape and motions to express the Animal way. (PPO 15–16)

It is at the composed level where things start to get interesting and where we find the familiar forms of the objects of our everyday experience. According to Cavendish, the entities at the composed level are distinguished by their figures and motions or, as she often says, their "corporeal figurative motions."

> We speak now of the parts of infinite nature, which are infinite in number, though finite, or rather, distinguished by their figures; . . . we mean of such parts as may be distinguished or discerned from each other by their several figures; which figures are not constant, but change perpetually in the body of nature. So that there can be no constant figure allowed to no part, although some do last longer than others. (OEP 32)

> But, what we call finite parts, are nothing else but several corporeal figurative motions, which make all the difference that is between the figures or parts of nature, both in their kinds, sorts, and particulars. And thus finite and particular parts are all one, called thus, by reason they have limited and circumscribed figures, by which they are discerned from each other; but not single figures, for they are all joined in one body, and are parts of the one infinite whole, which is nature; and these figures being all one and the same with their parts of matter, change according as their parts change, that is, by composition and division. (OEP 31)

As was said in Chapter 3, according to Cavendish, nature produces an infinite variety of token corporeal motions (including types of composition, division, generation, dissolution, alteration, augmentation, contraction, dilation, diminution, and transformation), and these "infinite changes of motions produce infinite varieties of figures; and all the degrees of density, rarity, levity, gravity, slowness, quickness; nay, all the effects that are in Nature" (OEP 126). Self-moving matter causes all the variety we see in the world by composing itself into various dynamic structures or figures.[3] These different structures bring about different abilities, sensations, and knowledge in the parts of nature.[4] Thus, the composition and structure of a human being enable powers and abilities that are different from those of another animal or a plant. Each structure results in the expression of sense and knowledge associated with the natural kind. She writes,

[3] When I speak of "structures," I am referring to the motions and figures of natural kinds within nature. These structures are dynamic, as all matter is constantly moving in Cavendish's system.

[4] Cavendish notes that "figure is nothing else but matter transposed or transformed by motion several modes or ways" (PL 148).

> Truly if all Creatures are natural Creatures, Man must be so too; and if Man is a natural Creature, he must needs have natural sense and reason, as well as other Creatures, being composed of the same matter they are of. Neither is it requisite, that all Creatures, being of the same matter, must have the same manner of sensitive and rational knowledg; which if so, it is not necessary for Corn to have Ears to hear the whistling or chirping of Birds, nor for Stones to have such a touch of feeling as animals have, and to suffer pain, as they do, when Carts go over them; as your Author is pleased to argue out of Æsopes Tales; or for the Heliotrope to have eyes to see the Sun: for what necessity is there that they should have humane sense and reason? which is, that the rational and sensitive matter should act and move in them as she doth in man or animals: Certainly if there must be any variety in nature, it is requisite she should not; wherefore all Vegetables, Minerals, Elements, and Animals, have their proper motions different from each others, not onely in their kinds and sorts, but also in their particulars. And though Stones have no progressive motion to withdraw themselves from the Carts going over them, which your Author thinks they would do, if they had sense, to avoid pain: nevertheless they have motion, and consequently sense and reason, according to the nature and propriety of their figure, as well as man has according to his. (PL 192–93)[5]

> And as the figures and parts alter by their compositions and divisions, so do both interior and exterior particular knowledges: for a tree, although it has sensitive and rational knowledge and perception, yet it has not an animal knowledge and perception; and if it should be divided into numerous parts, and these again be composed with other parts, each would have such knowledge and perception, as the nature their figure required. (OEP 170–71)

> Yet by reason of the variety of this self-motion, whose ways and modes do differ according to the nature of each particular figure, no figure or creature can have the same sense and reason, that is, the same natural motions which another has; and therefore no stone can be said to feel pain as an animal doth, or be called blind, because it has no eyes; for this kind of sense, as seeing, hearing, tasting, touching and smelling, is proper only to an animal figure, and not to a stone, which is a mineral. (OEP 222)

[5] See also PL 113–14.

According to Cavendish, objects have both interior and exterior parts and motions. The distinction might seem merely to direct us to spatially inner and outer parts of bodies. But as Deborah Boyle notes, Cavendish refers to interior parts as the "inherent nature" of a thing.[6] But what is this inherent nature? It seems clear that for Cavendish, the interior parts are those figurative motions that make a portion of matter a particular type of individual.

> It is to be observed, that in composed figures, there are interior and exterior parts; the exterior are those which may be perceived by our exterior senses, with all their proprieties. . . . But the interior parts are the interior, natural, figurative motions, which cause it to be such or such a part or creature: As for example, man has both his interior and exterior parts, as is evident; and each of them has not only their outward figure or shape, but also their interior, natural, figurative motions, which did not only cause them to be such or such parts; (as for example, a leg, a head, a heart, a spleen, a liver, blood, etc.) but do also continue their being. (OEP 162)

Each body, for instance, a head or a heart, has both external and internal parts. Exterior parts are those that are externally visible. These parts, due to their figurative motions, have color, size, weight, and so forth, that are available to human sensory experience. But the interior "parts" are figurative motions that determine the kind of thing a portion of matter is and maintain it in that structure. The motions and figures of the interior nature determine the exterior nature as well.

> I understand the particular nature of every creature, according to its own kind or species; . . . so there are also particular natures in every creature, which are the innate, proper and inherent interior and substantial forms and figures of every creature, according to their own kind or species, by which each creature or part of nature is discerned or distinguished from the other; as for example, although an animal and a vegetable be fellow creatures, and both natural, because material; yet their interior particular natures are not the same, because they are not of the same kind, but each has its own particular nature quite different from the other; and these particular natures are

[6] Boyle, "Margaret Cavendish on Perception," 442. Boyle cites OEP 100, where Cavendish writes, "Our exterior senses can go no further than the exterior figures of creatures, and their exterior actions: but our reason may pierce deeper, and consider their inherent natures, and interior actions"

> nothing else but a change of corporeal figurative motions, which make this diversity of figures; for, were the same interior and natural motions found in an animal as are in a vegetable, an animal would be a vegetable, and a vegetable an animal, without any difference. (OEP 197)

Moreover, the figurative motions of the interior nature determine the way in which sense and reason are expressed in a particular kind or individual. Discussing the way that perception varies according to kind, Cavendish writes,

> Particular parts make perceptions, according to the nature of their corporeal, figurative motions, and their perceptions are as numerous as their actions: For example, those parts that are composed into the figure of an animal, make perceptions proper to that which figures corporeal, interior, natural motions: but, if they be dissolved from the animal figure, and composed into vegetables, they make such perceptions as are proper for vegetables; and being again dissolved and composed into minerals, they make perceptions proper to minerals, etc. so that no part is tied or bound to one particular kind of perception, no more than it is bound to one particular kind of figure; but when the interior motions of that figure change, the perceptions proper to that same figure, change also. (OEP 166)

The interior nature or figurative motions determine not only what sort of perception a composed figure has, but all of its powers and abilities. Cavendish holds that there is no substance/accident distinction. She believes that changes in the motions and figures of the matter determine how it looks, what abilities it has, and how it changes. She writes that "all those, they call qualities, are nothing else but change of motion and figure of the same body" (PL 130).

In these passages, and many others, Cavendish makes clear her commitment to natural kinds and to the fact that the interior natures and motions of these kinds determine their exterior shapes and abilities and powers. Cavendish maintains that individuals within these species have differences between them, but that we can speak of the general abilities and powers of various natural kinds.

In addition, every portion of matter has what she calls "self-knowledge." This is the knowledge that portions of matter have of their own current configuration. Since all portions of matter can form any type of figure, each

portion must know what figure it currently has in order to know how it can move and what sort of powers it has in its current configuration. This knowledge is innate in matter and changes when figures change. Cavendish holds that "self-knowledge is the ground and principle of all particular knowledges" (OEP 138). Kourken Michaelian claims that "the nature of the priority of self-knowledge over perception remains obscure."[7] However, I believe that Cavendish simply means that self-knowledge is necessary for the perceptive abilities of individuals. If a portion of matter is currently configured as a human eye, its self-knowledge will reveal its current perceptive abilities as determined by its interior motions, and these will be different from the perceptive abilities of a portion of matter that is currently configured as a cat's eye. Cavendish's account of self-knowledge does the work of explaining how it is that a portion of matter that can be at one time a human eye and at another time a cat eye, can know what it is and how it is moving at each of those different times:

> Every part and particle has a particular and finite self-motion and self-knowledge, by which it knows itself, and its own actions, and perceives also other parts and actions; which latter is properly called perception; not as if there were two different principles of knowledge in every particular creature or part of nature; but they are two different acts of one and the same interior and inherent self-knowledge, which is a part of nature's infinite self-knowledge. (OEP 138)

Individuals, according to Cavendish, "have limited and circumscribed figures, by which they are discerned from each other" (OEP 31). We can differentiate one body from another by the way that it is shaped and moving. Although not all bodies have perceivable local motion, Cavendish thinks that the motions of maintaining interior and exterior shapes are present in all individuals. We can discern one individual from another individual because their integrated movements extend no further than the boundaries of their own bodies. When an individual is formed, all the parts of that individual coordinate their self-motions toward generating, developing, and maintaining that unity. This produces a self-maintaining, integrated causal system. In order to explain how individuals come into existence, I will now turn to her account of generation.

[7] Michaelian, "Margaret Cavendish's Epistemology," 37.

Generation, Growth, and Death

While Cavendish does not claim to know how every creature is made, she does believe, due to the many different natural kinds and the variations between individuals within those kinds, that "it is not probable, that the production or generation of all or most Creatures, should be after one and the same manner or way, for else all Creatures would be just alike without any difference" (PL 416). But she also tells us that while "nature delights in variety, she does not delight in confusion," and so we can provide a general account how generation works.

Given that any portion of matter has the potential to be any kind of thing, it is important for Cavendish to explain why we experience the regularity we observe in the generation of members of one particular natural kind. That is, she needs her account of generation to explain how humans give birth to humans and dogs give birth to dogs, and to show why it is not possible that humans can produce dogs or dogs, humans. She accomplishes this by arguing that human and animal generation (at least) involves a type of substance transfer that she calls "translation."

> The rational and sensitive parts of Nature, which are the designing and architectonical parts, keep the species of every kind of Creatures by the way of Translation in Generation, or natural Production; for whatsoever is transferred, works according to the nature of that figure or figures from whence it was transferred. . . . I do not mean always according to their exterior Figure, but according to their interior Nature; for different motions in one and the same parts of matter, make different figures, wherefore much more in several parts of matter and changes of motion; But, as I said, Translation is the chief means to keep or maintain the species of every kind of Creatures, which Translation in natural production or generation, is of the purest and subtilest substances, to wit, the sensitive and rational, which are the designing and architectonical parts of Nature. (PL 416–17)

In generation by translation, matter, along with its motions, is transferred to another entity. Cavendish notes that if two beings are involved in the generation, they both contribute corporeal motions to the generation of the entity. When this translation of matter occurs, the rational and sensitive parts of the matter continue to move in the same ways as they did

before the translation and so form a creature that resembles the ones from which the matter was translated. In this way, Cavendish thinks that she can explain how only humans generate humans and owls only generate owls, etc. She provides an example to illustrate why generation works by the transfer of substance rather than by occasional causation.

> According as the Producers are, which transfer their own matter into the produced, so is the produced concerning its species; which is plainly proved by common examples; for if Pheasants, or Turky, or Goose-eggs, be laid under an ordinary Hen, or an ordinary Hens-egg be laid under a Pheasant, Turky, or Goose, the Chickens of those Eggs will never be of any other species then of those that produced the Egg; for an ordinary Hen, if she sit upon Pheasants, Turky, or Goose-eggs, doth not hatch Chickens of her own species, but the Chickens will be of the species either of the Pheasant, or Turky, or Goose, which did at first produce the Egg; which proves, that in Generation, or Natural production, there is not onely required the action of the Producers, but also a Transferring of some of their own parts to form the produc'd. B't you may say, What doth the sitting Hen contribute then to the production of the Chicken? I answer: The sitting Hen doth onely assist the Egg in the production of the Chicken, as the Ground doth the Seed. (PL 428–29)

In the next chapter, I will explain in detail Cavendish's two types of causation, but a short summary will suffice here. The first type of causation is substance transfer, which is what we see in actions like translation and generation, and the second type is what she calls "occasional causation." Generally, in occasional causation, when one object A affects another object B, A serves as the occasion for B to move by its own self-motion. Here Cavendish argues that if occasional causation were sufficient for generation, eggs produced by pheasants that were placed under a chicken would become chickens rather than pheasants because only the influence of the chicken would be necessary to cause a change in the eggs. Since this does not occur, Cavendish argues, we should believe that more than the actions or motions of the producers are necessary in order to generate a new life. That is, the transfer of substance is also required.

After the process of translation, growth continues in the creature until it reaches its "perfection."

> All Animal Creatures require Time in their Creation, so in their Perfection, which Perfection is to have a perfect Shape, Strength, and Knowledge proper to the Nature or Kind of its Figure, by which we may perceive, it is not only the Motion, but the Quantity of Matter, that brings a Creature to Perfection, that is, a just Proportion of matter proper to the Nature or Size of the Figure; for if Perfection were at the first Instant, and not by Degrees, a Child in the Womb, or at least new Born, would be as Big, Strong, Sensible and Knowing as at Ripe Age; but we may observe, that it is not so amongst the Creatures in this World, especially that Creature named Man, for his Growth, Strength, and Knowledge is Increased by Degrees, for after the Parts and Passages are made, every Degree of matter proper for that Creature is brought to, and carried in by the Matter that is in the Producer, and after it is separated from the Nourishment of the Breeder, it is Perfected by other matter proper for it, from other Creatures, that do contribute to its Perfection; and as other Creatures do contribute to the Perfection of that Creature, so that Creature doth contribute to the Perfection of other Creatures, and must do so upon necessity, since all Matter lies or lives in Figures and Creatures, as all Figures and Creatures lie or live in Matter; but as Children get Strength by Food, so they get Knowledge by Experience. (PPO 32–33)

The motions and the matter of the producers begin the generation process, and then other creatures contribute to the perfection, or growth, of individuals. This process continues until the creature eventually declines and dies. The continuance of a particular individual or "society" (Cavendish's term for "individual" in some texts) depends on the bond between the parts.

Cavendish believes that societies are held together by love. According to Cavendish, every part of nature has self-motion and self-knowledge, and therefore self-love. However, passionate love, which she also glosses as *desire* or *sympathetical motion*, is something that occurs between parts. Parts of individuals or societies have passionate love for one another that causes them to move in agreement. Likewise, one individual may have passionate love for another, which moves them to unite. She writes,

> Self-love, is like Self-knowledg, which is an innate Nature; and therefore is not that Love Man names *Passionate Love*: for, Passionate Love belongs to several Parts; so that the several parts of one Society, as one Creature,

> have both Passionate Love, and Self-love, as being sympathetically united in one Society: Also, not only the Parts of one and the same Society, may have Passionate Love to each other; but, between several Societies; and not only several Societies of one Sort, but of different Sorts. (GNP 68)

This bond of love is created by the mutual "agreement" between the parts to unite and move together, and this love causes "a Rational Fear of disuniting, or dissolving" (GNP 130). Cavendish maintains that an organism can survive the slow replacement of material parts and can also survive certain sudden losses, like the loss of an arm, while still maintaining its identity.

> First, it may be asked, Whether the Parts of a Composed figure do continue in such a Composition until the whole figure be dissolved? I answer, My opinion is, that in some compositions they do continue, at least some longer then others; but although some parts of a figure do disjoin from each other, and join with others; yet the structure of the Creature may nevertheless continue. (OEP 130)

However, too much change too quickly results in the destruction of the organism or society. Death, according to Cavendish, is simply the dissolution of the parts of a society. It is not the case that the matter is destroyed—in this she agrees with Hobbes. She writes, "For properly there is no such thing in Nature as death, but what is named death, is onely a change from the dissolution of some certain figure to the composition of another" (OEP 225). The dissolution happens by way of the division of the parts of matter. The matter that is divided from its previous structure at the time of death immediately joins new structures. The matter is not annihilated but merely changes its motions. Cavendish holds that although matter gains certain types of knowledge when it is organized in certain ways, that knowledge also changes as soon as the structure is dissolved. As she notes, "The Knowledge of every Part alters, according as their Actions alter: so that the Parts of one and the same Society, after division, have no more knowledge of that Society" (GNP 257).

Cavendish tells us that human beings, realizing that they cannot prevent their society from dissolving, endeavor an afterlife. However, we also realize that no afterlife that resembles our current life is possible, so we seek some sort of fame by which we will be remembered by other human beings and thereby live on in their memories.

> In every Regular Human Society, there is a Passionate Love amongst the Associated Parts, like fellow-Students of one College, or fellow-Servants in one House, or Brethren in one Family, or Subjects in one Nation, or Communicants in one Church: So the Self-moving Parts of a Human Creature, being associated, love one another, and therefore do endeavour to keep their Society from dissolving. But perceiving, by the example of the lives of the same sort of Creatures, that the property of their Nature is such, that they must dissolve in a short time, this causes these Human sorts of Creatures, (being very ingenuous) to endeavour an after-life: but, perceiving again, that their after-life cannot be the same as the present life is, they endeavour (since they cannot keep their own Society from dissolving) that their Society may remain in remembrance amongst the particular and general Societies of the same sort of Creatures, which we name *Mankind*: And this Design causes all the Sensitive and Rational Parts, in one Society, to be industrious, to leave some Mark for a lasting Remembrance, amongst their fellow-Creatures: which general remembrance, Man calls *Fame*. (GNP 75–76)

Identity over Time

Cavendish's claims that human beings cannot expect an afterlife that resembles the life they currently enjoy. Yet we find her most straightforward account of personal identity over time in her discussion of the possibility of resurrection. This discussion occurs in two sections of the appendix to the *Grounds of Natural Philosophy*. She considers the question, "*Whether all the particular parts of every human creature, at the time of the Resurrection, be, to meet and joyn, as being of one and the same society?*" (GNP 259). She answers with a yes. She first considers whether human beings would be resurrected with the body of their "most perfect age." However, she sees problems with this account. She writes,

> If a dead child did rise a man, as at his most perfect age, it could not be said, he rises according to a natural man, having more parts than by Nature he ever had; and an old Man, fewer parts than naturally he hath had: So, what by adding and diminishing the parts of particular men, it would not cause only injustice; but not any particular human creature, would be the same as he was. (GNP 259–60)

Her view is that in order for an individual to be resurrected as the same individual, it cannot have more or fewer parts that it had when it was alive. All and only the parts of matter connected with that individual from its origin to its dissolution must be united.[8] She writes,

> If it was not so, then every particular human society would be imperfect at the time of their resurrection: for, if they should only rise with some of their parts, as (for example) when they were in the strength of their age, then all those parts that had been either before, or after that time, would be unjustly dealt with. (GNP 259)

Likewise, in a discussion of whether an individual, having been dissolved, could unite again and be the same individual, she writes,

> If all the parts of one society, as for example, a man, from the first time of his production, to the time of his dissolution, should, after division, come to meet and unite; that man, or any other creature, would be a monstrous creature, as having more parts than was agreeable to the nature of his kind. The Major Part's opinion was, that though the society, viz. the man, would be a society of greater magnitude; yet not any ways different from the nature of his kind. (GNP 258)[9]

What we see from this discussion is that although for our everyday purposes it is fine to say that a society is the same society at two different times, strictly and philosophically speaking, we are only seeing two parts of the whole society. All the material parts, from the time of production until the time of dissolution of an individual's figure, constitute the identity over

[8] Cavendish's views about individuation somewhat resemble Thomas Hobbes's views. Hobbes holds that, strictly speaking, a body that loses a part is no longer the same body. He claims that changes in individuals are changes in matter. However, he also notes that when we pick out objects in the world, we can conceptualize them in a number of different ways. The identity conditions of a given object will vary depending on the concept that we are analyzing. While a human being's body as an infant is not identical with a human being's body when one is grown (since there is more matter in the latter than the former), we still are able to say that one is the same human being because the identity of a human being depends on maintaining the same motions that were present at generation, while the identity of a body depends upon maintaining the same matter. Hobbes holds that "a body is always the same, whether the parts of it be put together or dispersed; or whether it is congealed or dissolved" (*De Corpore* XI.7). For a discussion of Hobbes's account of diachronic identity, see Pasnau, *Metaphysical Themes*, 705–10.

[9] Here I take the "Major Part" (of her mind) to be the view that Cavendish favors.

time of a creature. Thus, Cavendish's views on identity over time prefigure a four-dimensionalist theory of personal identity.

In her account of personal identity over time, Cavendish seems to be ahead of her time. However, it does not seem to fare as well as an account of the resurrection. In order for this account of resurrection to work, she must hold that it is impossible for matter that was once composed into human form to ever be part of another human form. For if two human beings could share the same parts of matter, then it would be impossible for God to decide which body should have that matter at the resurrection. Cavendish nowhere mentions this as a rule of nature. Rather, she frequently remarks that any part of matter can take on any shape or form. This might leave one to infer that Cavendish is not really committed to the resurrection of individuals. However, if we combine this account of the sameness of person with her account of the perfection of individuals, it does provide us with an idea of what she takes to be necessary and sufficient for the persistence of creatures through time.

So, for Cavendish, we distinguish individuals by their circumscribed figures and common motions. Individuals gain and lose matter over time, but they maintain their figures and motions through a process of nourishment that sustains growth, as well as slow decay. This causal process allows us to differentiate them and to recognize them as the same being over time. Strictly and philosophically speaking, it is the parts of self-moving matter, from their production to their dissolution, that constitute the whole of the individual. So far so good. But there is one final worry about individuals that we must address. We experience ourselves as a unity—a self. Our thoughts seem to be united in one mind. But, given Cavendish's panpsychism, it seems that we are actually composed of many minds. So wherein lies this unity?[10]

The Unity of the Mind

Although in some passages Cavendish seems to point to the brain or head as the center of thought, in other places she is quite clear that this is not the case.[11]

[10] The inclusion of this issue is largely due to worries brought up by Lewis Powell in an online Cavendish reading group in spring 2015. I owe a debt of gratitude to all the participants for their helpful discussions.

[11] Detlefsen, "Cavendish and Conway," argues that Cavendish's conception of the human mind involves two hallmarks: (1) our own experience of our minds, from which we generalize to all things

> For there being a thorow mixture of animate, rational and sensitive, and inanimate matter, we can not assign a certain seat or place to the rational, another to the sensitive, and another to the inanimate, but they are diffused and intermixt throughout all the body; And this is the reason, that sense and knowledg cannot be bound onely to the head or brain. (PL 111–12)

Due to complete blending, every part of matter has reason and sense. Recall, "For although sense and reason are the same in all creatures and parts of nature, not having any degree in themselves . . . yet they do not work in all parts of nature alike, but according as they are composed" (OEP 128). However, certain figures are better able to express the senses, and other parts are better able to express the rational.

> And though the rational part of matter is mixt in all parts of the body, yet it hath more liberty to make variety of Motions in the head, heart, liver, spleen, stomack, bowels, and the like, then in the other parts of the body; nevertheless, it is in every part, together with the sensitive: but they do not move in every part alike, but differ in each part more or less, as it may be observed; and although every part hath some difference of knowledg, yet all have life and knowledg, sense and reason, some more, some less, and the whole body moves according to each part, and so do all the bodily Faculties and Proprieties, and not according to one single part; the rational Soul being in all parts of the body. (PL 188)

Cavendish holds that the rational parts of an individual, which are located throughout the individual's matter, constitute that individual's mind. These rational parts, as long as they continue in a certain circumscribed figure with common motions, direct the sensitive parts of the body and are able to pattern those parts. The patterns the rational parts make of the sensitive parts are our thoughts formed from the senses of seeing, hearing, touching, tasting, and smelling. The figures of the rational parts (motions made without patterning) are our imaginations, memories, fancies, conceptions, and passions (OEP 170). Cavendish claims that the rational parts are responsible for our thoughts, and also for our consciousness of sensations. She presents cases where a person deep in thought or fast asleep may not

sharing the human figure, and (2) the ability to use speech. While Detlefsen presents what she takes to be the marks of the human mind, she does not present an account of the unity of the mind.

notice being pinched. She explains this by claiming that sometimes the rational parts do not pattern the sensitive parts, and so even though the sensation of pinching occurs, there is no awareness of the pinch. In addition, she claims that the rational parts, "being more observing and inspective than the sensitive, as being the designing and ordering parts, may sooner have a general information and knowledg of all other rational parts of the composed figure, and may all unitedly work to the conceptions or thoughts of the musing and contemplating man" (OEP 151). Here she claims that the rational parts are aware of all the various patterning and figuring throughout the individual, and this enables them to form united ideas and thoughts.

Cavendish acknowledges that the head and heart are two of the places where the rational parts move more freely, and thus these are parts that are more closely associated with centers of reason and passion. But her account of the unity of mind seems to be simply that the parts being unified in a single figure or society, a single individual, work together to produce the thoughts and sensations appropriate to that sort of creature.

However, if the mind is located throughout the body, we might wonder why we do not have access to knowledge about our internal organs or the communication between parts of our own bodies. Cavendish claims that compositions cause knowledge and division causes ignorance. Given that an individual is the result of composition, we should expect to have access to every part of the composition. Yet this is not what we experience, and it is not Cavendish's view. In order to explain this, we might think of various systems in the body as being closed off from some others. In the same way that we do not have conscious access to the rational parts of other beings, we do not have access to certain composed parts within our own bodies. For instance, the circulatory system in our bodies contains rational and sensitive parts that have awareness of each other, but perhaps not awareness of the perceptual system of hearing. This is not to say that no information is passed between systems, but Cavendish can claim that because this system is a part of the body that is somewhat closed to some parts and open to other parts, we have a division that prevents access to the rational parts of this system being shared with the rational parts that are our awareness of our bodily functions. Certain information is available to consciousness of the whole, while some is not, even though there is reason and sense throughout the body. In addition, parts have some knowledge of other parts through sense or perception (just as we have some knowledge of other beings through perception and we can

sense our own pulse), but this does not give them information about the rational parts of those systems.

Conway on Individuals

In order to understand Conway's views on individuation and identity, we must consider two very important aspects of her metaphysical account. The first is her view that each individual has what she calls a "central" or "principal" spirit, which plays the role of the soul. This central spirit, in contrast to more traditional accounts of the soul, is actually a multitude of spirits whose ordering changes over time. The second feature is her commitment to metempsychosis; that is, her view that after death the soul of an individual takes on a new body either of the same or of a different species.[12]

We have seen that Conway refers to created beings simply as "creation" and claims that they are all parts of one substance. She writes, "The creature, or the whole of creation, should be in its species one substance or essence, even though it may comprehend many individuals, collected under their own subordinate species, that are modally but not substantially or essentially distinct from one another" (P 6.4). So, although creation is one substance, it is also the case that Conway believes that there are many distinct species or kinds and individuals within this substance. So we must ask, how are these individuals differentiated from other individuals and what constitutes an individual?

Conway's answer to the question of what individuates creatures from one another is that each one has a unique central spirit. Conway stresses that although we call it "a central spirit," this spirit is still multitude.

> And here it should be observed that, although the spirit of a human is commonly referred to in the singular, as if it were one thing, in fact this spirit is a certain composite of many spirits—indeed, innumerably many—just as a body is a composite of many bodies. A body has a certain order and government (regimen) among all its parts, and much more of spirit, which is

[12] It is important to note that for Conway *nothing is essentially a human being*, nor is anything essentially any other particular natural kind or *species*. This fact might seem surprising. After all, most of us do not think that we could be a fish, a fox, or a rock. But if you can be some other kind of being, then you are not essentially a human being, and it is clear that Conway thinks you can be another kind of being. For a discussion of Hobbes's and Conway's antiessentialism, see Pasnau, *Metaphysical Themes*, 648–52.

> a great army of spirits, in which there are distinct officers who are subordinate to one ruling spirit. (P 7.4)

However, although the substance of the principal spirit of an individual remains the same throughout that individual's existence, its order changes. So, although there is no single soul of an individual that remains the same through time, the bundle of spirits that constitutes the central spirit remains the same in number even though its order changes. She writes,

> The unity of the spirits that compose this center or predominant spirit is more secure and more resilient than the other spirits, which are like Angels or ministering spirits of their Prince and Commander. Indeed, in a human this unity is so great that nothing can dissolve it (even though the unity of the great majority of ministering spirits, the ones that do not pertain to the center of the composition, can be dissolved). (P 7.4)

Emily Thomas aptly suggests that we imagine the individual as a wheel with the central spirit as the center which remains the same.

> I suggest that Conway's creatures can be pictured as wheels. The "principal" or "ruling" spirit sits at the central hub of the wheel, surrounded by "ministering" spirits. The outer rim of the wheel is comprised of bodies, and the hub and rim are connected via "subtle and tenuous" bodies which act as spokes. As it is only the principal spirit or central hub that moves from one body to the next, it is this in which identity consists.[13]

Since this bundle of spirits does not dissolve, although the spirits can become more light or dark and change their ordering, they are what receive the fitting punishments and rewards. Conway writes,

> Hence it comes to pass that the soul of every human will persist as an eternally intact soul, one enduring without end, so that it may receive the proper fruits of its labors. The universal law of justice, which is inscribed upon every thing, requires this. It is like the strongest, indissoluble bond for the purposes of preserving this unity. For what could agree more with that infinite justice and wisdom than the fact that those things that harmonize

[13] Thomas, "Anne Conway," 143.

> and have been joined together in order to bring about good and evil, will together receive the reward or punishment they deserve (something which could not happen, if they were separated off from one another)? For the same reason, it is evident that the central spirit of all the other creatures may remain indissoluble, and that although new central spirits are continuously formed in the production of things, no central spirit may dissolve, but instead it should be promoted upward or demoted downward in accord with its current dignity or indignity, and capacity or incapacity. (P 7.4)

Each individual, then, is a central or principal spirit. Every individual, whether its current body is that of a beast, plant, or angel, is capable of being a human, but no individual is essentially a human being. Rather, each individual is essentially a bundle of finite spirits, and the outer appearance of any individual is only a temporary manifestation of that individual's current moral and ontological status.

Conway holds that the central spirit can change and precipitate changes in the species of the individual, but how can the central spirit change if it is supposed to differentiate one individual from another? Deborah Boyle reads Conway as holding that "all spirits, the lesser as well as the nobler, are contained in a creature, albeit only potentially," and she claims that "different spirits can become actual and govern the others."[14] This seems to imply that some spirit that did not exist in the creature could be added to, or generated in, it. However, Conway believes that the central spirit is a bundle of spirits that remain together forever, so it cannot be the case that any new spirit can be part of the central spirit of a particular creature. Boyle is correct in saying that Conway believes that creatures do not *actually* contain every kind of spirit in them; that is, Conway does not think that every particular type of animal, vegetable, and mineral spirit exists in every being. Conway writes that creatures only contain every type of spirit *potentially,* and Boyle takes her to mean that different spirits can come to inhabit bodies and become a principal spirit. But I think that Conway is merely saying that every bit of spirit is capable of transforming into any kind of being (the transmutability thesis). But this does not explain how the central spirit changes. Indeed, Conway is never explicit on this point, but her texts suggest a way of interpreting how the central spirit is arranged and how it changes.

[14] Boyle 2006, 178 and 179.

We might interpret Conway as holding that the central spirit is composed not only of a multitude of spirits, but of a multitude of *kinds* of spirits. In particular, every soul could contain the spirits, not of every species, but of every genus. In this way, we can interpret her claim— "Human nature has in it the nature of all creatures, and hence it is called a microcosm" (P 5.6)—as the view that one's central spirit contains multiple natures in a hierarchical structure. It is consistent with what she says in various passages that every individual spirit contains intellectual spirits, brute or sensitive spirits, vegetative or nutritive spirits, and mineral spirits.[15] When these spirits are properly ordered, the intellectual rules over the sensitive, the sensitive rules over the nutritive, and the nutritive over the mineral. However, when, for instance, a human's desires are disordered, the brute or sensitive spirit might rule the intelligent spirit. Conway does seem to hold that the central spirit is hierarchically structured, as she claims that the central spirit is ordered like an army. She writes,

> And just as a body, say, of a human or a beast, is nothing other than an innumerable multitude of bodies that have been compacted together into one and arranged in a certain order, so too and in a like manner the spirit of a human or beast is some innumerable multitude of spirits united together in the body, and they too have their own order and government (*regimen*), so that one of them is the primary ruler (*regens*) and possesses a higher position (*locum*), and another has some other rulership under it, and so on through the whole, just as one is accustomed to finding in an army of soldiers. (P 6.11)

If the central spirit is organized in this way with different kinds of spirits, then we can see how, for instance, the sensitive spirit could become dominant in an individual that acquires bestial tendencies, and that this would cause the superior intellectual spirit to become servants to the bestial. Conway writes,

> If a human is united to and joined with something, he becomes one with that thing, and that he who clings to the Lord, is a spirit one with him; and if he clings to a prostitute, he will be one flesh with her. Therefore, if someone

[15] For instance, she might hold a view like that found in Thomas Aquinas's *Commentary on Aristotle's De Anima*, 413a11–44a28. Harrison, "Animal Souls," notes Conway's similarity to Aquinas with respect to the distinction between a type of soul and its modes of existence (540 n. 102).

> is united with the beastial, why would he not for the same reason become one with what is bestial, and that the same in all the remaining cases? For, just as the Scriptures say, if he submits in obedience to someone, he is his servant to the extent that he obeys him. (P 6.8)

Of course, we can also love and unite ourselves to that which is higher and nobler, and when this happens, the proper ordering of the central spirit is maintained (or restored), and our bodies (when we next receive one) will reflect this fact.

Generation, Death, and Metempsychosis

Conway maintains that when new central spirits are formed, during generation, the female semen holds the male semen along with other spirits from outside of the male and female.

> Whatever spirit, then, is at that point strongest and possesses the strongest image or idea in the female—whether this be the masculine, or the feminine, or any other spirit received from outside either one of them—that spirit is predominant in the seed and is what forms the body as closely as it can in its own image. And in this way each creature takes on its external form. (P 6.11)

As we can see, it is not just the spirits of the individual or individuals involved in fertilization that determine the resulting individual's shape and kind; outside spirits can play a substantive role. Deborah Boyle has recently written about this surprising aspect of Conway's account. Boyle wonders how outside spirits could possibly get into the semen in the woman's womb. She speculates that one way this might occur is through eating it. She writes, "A human might come to contain the spirit of another creature through consuming or digesting that creature."[16] Boyle is correct that this could occur through consumption, but Conway holds that we take outside spirits into ourselves all the time through all of our senses. These subtle spirits become part of us and influence our thoughts and behaviors. While ingestion might

[16] Boyle, "Spontaneous and Sexual Generation," 191.

be a way to do this, so are hearing, seeing, smelling, and touching. As Conway writes,

> It is also the case that there are many other subtler spirits that continuously emanate from these [bodies] and that, on account of their subtlety, cannot be detained by the hardness of the bodies in which they hide. These spirits are the subtler products, or the sutures, of the crasser spirits that are detained in bodies. For even though they are detained inside, they are not idle in their prison. Rather, their bodies are for them like workshops where they make these subtler spirits which then emanate in colors, sounds, odors, tastes, and the various other powers and virtues. (P 8.5)

The retentive nature of the female semen holds these outside images/spirits as ideas, and if they are strong in her, the resulting individual's body may reflect these images rather than the contributors of the seminal fluids. Conway holds that this form of generation, the coming together of the active and passive principles, which corresponds to spirit and body and male and female, respectively, applies to every type of production in the world. For according to Conway, the body is the repository not merely of images from the outside, but also of our own thoughts, memories, and knowledge. While Conway does associate the female with the body and with the more crass nature, it is notable that it is the image or idea that has the most strength within the female that determines the body of the offspring. For Conway, unlike many of her male contemporaries, the body plays an important role. As I have argued elsewhere and as we will see in what follows, bodies are necessary for knowledge, sensation, perception, and memory.[17]

As Boyle also notes, Conway is also committed to what we now call "spontaneous generation." In this type of generation one species is produced by a different species. Conway holds that flies are generated from maggots and fish from water. Moreover, Conway argues that in keeping with biblical text, all animal bodies are created from earth and water, and so earth and water must contain the spirits of all animals (P 8.4).[18] Boyle explains, "For example,

[17] Of course, bodies just are a degree of spirit for Conway. See Lascano, "Bodies in the Spiritual World."

[18] Conway argues that humans are given their souls directly from God, while other souls are produced from water. "It is here that a most noteworthy difference between the human creatures and brutes arises. For concerning man, it is said that God made him in his image, breathed into him a vital breath and made for him a living soul, and thereby a human [acquires] his own life, the principal part of his in virtue of which he is human and which is really distinct from the Divine soul or spirit that God breathed into him" (P 6.6).

if the spirit of a fish is released from water, that spirit will direct the construction of a fish body using the matter of the water."[19] While Boyle's interpretation stays close to Conway's text on this point, there are several questions remaining about Conway's account. First, Boyle seems to indicate that a particular type of spirit can be released from a corrupted body and then use its "formative powers" to make a new body from the matter around it. However, Conway claims that bodies are generated by emanation from the central spirit and not just any spirit that is released from a corrupted body. So instead of claiming, as Boyle does, that Conway's account of generation is really a species of spontaneous generation, I would argue that she does not use the term "spontaneous generation" when she writes about these issues because she does not see this as generation at all.

What appears in this case to be spontaneous generation is just the transformation of a central spirit from one type of being to another. That is, the case of water turning into fish, and so forth, is just an instance of metempsychosis. She is not committed to spontaneous generation as such; rather she takes this sort of phenomenon as evidence for her view that all things are transmutable into other things. When water transforms into fish or maggots into flies, we are not able to perceive the central spirit of the small body that has evolved from a bit of water into the fish or that of the maggot that has transformed into a fly. Conway holds that water and earth contain central spirits just like other bodies, which are then transformed into other creatures when portions of its body are corrupted.

> And along with this, why is it that when a body is corrupted that some other species of thing is generated from this corruption? From the corruption of water or earth, animals spring forth. Indeed, stones, if they putrefy, turn into animals. Thus, dung or some other rotting matter generates animals that all have spirits. But how does the corruption or dissolution of a body tend toward a new generation, and to [the generation of] animals in particular? (P 8.4)

> At this point let it be noted that in all hard bodies (including, stones—both common and precious—as well as metals, plants, trees, and animals, and in all human bodies) there are not only numerous spirits existing, which are as it were imprisoned in crass bodies and united with them—which is the

[19] Boyle, "Spontaneous and Sexual Generation," 184.

> reason why they cannot emanate and fly off into other bodies until death and dissolution comes to pass. (P 8.5)

As noted, Conway argues that soul and body are united by intermediary bodies or spirits. These intermediary bodies or spirts act as a medium between the more refined soul and the crasser body. When a creature dies, it is the intermediary spirits that cease to exist, thus freeing the central spirit from its current body.

> And so, the subtlest and most spiritual body can be united with what is now a gross and dense body by means of some intermediary bodies that participate in both subtlety and crassness, measured in terms of the various degrees that exist between these two extremes. And these intermediary bodies are surely the clasps and chains through which a soul, so subtle and spiritual, is connected with a body so crass. If these intermediary spirits disappear or cease to be, the union is disrupted. (P 8.3)

While particular bodies (which are dense spirits) corrupt and die, no central spirit ever goes out of existence, and so there is in some sense no real death of an individual. It is just that the individual is not what we might intuitively think it is. The corruption of the body is a moment of reckoning, according to Conway. All creatures are subject to corruption, but death is only temporary and the opportunity for individuals to receive their just reward or punishment for the life they have led.

> Indeed, the death of things is not the annihilation of them; rather it is a change from one species and degree of life to another. This is why the Apostle proved and illustrated the Resurrection of the dead with a grain of wheat, which upon falling into the field, dies and rises back and is again fertile. (P 8.7)

> All things that are bounded by time are subject to passing away and corruption, or they may be changed into another species of thing, just as we see water changed into stones, stones into earth, earth into trees, and trees into animals or living creatures. (P 5.6)

Once an individual dies, its central spirit will alter and determine a new body for it in keeping with its current moral status. Thus, human beings who have led a carnal and bestial existence will see a change in the ordering of

their soul, with the bestial spirit overtaking the intellectual spirit. The bestial spirit will emanate a new body for the individual that reflects the animal that most closely resembles the traits the individual has exemplified in its previous life. Conway continually refers to body as "dark" and "condensed." This is not accidental. The fact that body is dark and condensed spirit is what allows it to function as a repository. Perhaps the most important function of the retentive nature of dark and condensed spirit is its role in the production of the body of an individual creature. Conway writes,

> Spirit is light, or an eye contemplating its own image, and body is the darkness that receives this image when spirit looks upon it; just as someone cannot see himself in clear air, or in any diaphanous body, as he does when he regards himself in a mirror, because the reflection of an image requires a certain degree of opacity, which we call body. (P 6.11)

The central spirit causes the dark and condensed spirit connected with it to reflect the inner moral nature of the individual in the shape that is most appropriate. This conjunction of spirit and body forms every created thing. For Conway tells us that "every created spirit has a kind of vehicle, whether terrestrial, or aerial, or ethereal" (P 5.6).[20] Conway's most detailed account of the process of transformation of the individual from one mode of existence to another is given in this passage:

> And, now, suppose someone lived life on this earth which was neither Angelic nor devilish, but merely that of a brute or an animal, so that his spirit was more similar to the spirit of beasts than to any other things. Would this same justice most justly make it come to be that, just as this person has become a brute in spirit (insofar as he has relinquished in himself the dominion over his more excellent part to the brutish part and spirit), he likewise will be changed in terms of his bodily figure (at least with respect to the exterior form) into the species of beast to which his intrinsic features, namely, the qualities and conditions of his mind were most similar? And given that the brutish spirit is now superior and dominant in him, whereas the other spirit is held captive, is it not likely that, once this sort of human dies, this brutish spirit will forever (*semper*) have dominion over him and drag the human soul every which way and force it to be its servant? And

[20] For the view that all spirits need vehicles, see Henry More's *Immortality*.

> once this aforementioned brutal spirit is again returned to some body and then has dominion over this body, so that its Plastic faculty has the freedom to give a form to the body according to its idea and inclination (something it did not have before in the human body), clearly it would follow of necessity that the body to which this vital spirit gives figure will be brutish and not human. For a brutish spirit cannot produce and form any other figure, because its Plastic power is governed by its imagination, and this imagines most forcefully what belongs to itself or conceives its own proper image, which as a consequence the outward body must of necessity assume. (P 6.7)

In her account, we see that the central spirit generates bodies because they serve the purpose of reflecting the inner image of an individual at a particular point in time. This, however, is only a snapshot of one particular moment in the individual's path toward moral perfection—a journey that requires an infinite amount of time. Transformations are the natural result of moving away from or toward God and the more spiritual. Of course, these changes occur slowly and incrementally, but an individual can, over time, change from a man to a horse, or from a horse to a stone, or from a man to an angel. All of these changes are effected by the determination of a bodily form through the reflection of the nature of the central spirit. It is in this way that one's body reflects one's ontological and moral status on the scale of being. Conway writes, "Just as every spirit needs a body to receive and reflect its image, it also needs a body to retain the image. Therefore, just as each spirit needs a body to receive and reflect its image, it also needs a body to retain the same. For every body has this retentive nature within itself to a greater or lesser degree" (P 6.11).

As for the differentiation of bodies within creation, Conway claims that bodies are demarcated by their shape, density, and motion. Different shapes, densities, and motions give rise to different capacities, such as varying degrees of speed or sensation. Strictly speaking, the criterion for something being a particular individual's body is that it is produced and controlled by that individual's central spirit. However, Conway also believes that any spirits that are produced by a central spirit always maintain a sort of sympathy with that spirit, even if they are no longer controlled by it. For instance, Conway holds that subtle spirits are exchanged when we engage in sensory or rational operations with outside spirits or individuals. The spirit that we emit to others maintains a connection to our central spirit that binds us to whatever takes in these spirits.

> For no matter how either spirits or bodies can be discerped or separated from one another in the entire universe, they nevertheless always remain united in this separation, given that the whole of creation is always only one substance or being and there is no vacuum in it. (P 7.4)

This affords a connection and sympathy throughout all creation, which, according to Conway, is properly speaking only one body, of which individuals are only parts.

Identity over Time

Conway maintains that a creature "is by nature this: a thing that is mutable" (P 9.5). If creatures can have radically different psychologies and physical forms, how does an individual persist as a person or self through these changes? Generally, to say that one is a person, self, or a soul involves the claim that a united psychology is present. For instance, Locke thinks that in order to be a person one must be "a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thing across space and time by means of consciousness" (Essay II.XXVII.9). He uses this definition of personhood to derive the following criteria for personal identity over time.

> For since consciousness always accompanies thinking, and 'tis that, that makes every one to be, what he calls self; and thereby distinguishes himself from all other thinking things, in this alone consists personal Identity, i.e. the sameness of a rational Being: And as far as this consciousness can be extended backwards to any past Action or Thought, so far reaches the Identity of that Person. (Essay II.XXVII.9)

But it seems that a Lockean view of personhood and personal identity over time will not work for Conway.[21] First, even if we grant that Conway holds that every creature, whether it be a stone, a tree, or an animal, has consciousness of some sort and can see itself as a self throughout its existence as a member of various species, we still would have multiple persons with the same central spirit, which is contradictory. Locke's view of how

[21] Of course, Conway could not have read Locke's *Essay*, as it was published after her death.

we persist through time by being connected to our past and future via consciousness and memory will fail to tie together the different modes of being that Conway's view posits. We do not seem to remember being other types of beings or even living as different human beings. This is so because Conway holds that memories are stored in the body, so that when your current body dies, you will lose those memories.

> For every reflection comes to be in virtue of some sort of darkness, and this is a body. Accordingly, memory requires a body to retain the Spirit of the thing thought; otherwise, it would vanish, just as the image in a mirror soon vanishes when the object is removed. (P 6.11)

While the view that memory is stored in the body fits well with the fact that we do not recall past modes of existence, it does not help us understand what it is to persist through time. It is clear that Conway holds that what an individual is, as said above, is a bundle of spirits, and this is what persists through time. This means, however, that what we think of as our "self" or what we see as fundamental to ourselves—our current mode of consciousness—is not what we really are. Instead, we are a central spirit whose order at any time reflects the moral status of our former mode of existence and which continually expresses this moral status in new modes of being. It is not possible for individuals to track the persistence of their own central spirit. We are only conscious of our current mode of being. We do not know how far we have fallen in the past or what heights we have achieved. But God, of course, knows all the changes of our central spirit, and each of us has an infinitely long path to our ever greater perfection and ultimate salvation.

> There should be this capacity for all of these perfections, namely, by means of various transmutations succeeding one after the other, which in accord with the natural order of things require long periods of time for their completion, even though, if it had pleased him, the absolute power of God could have sped all of these up and in one single moment brought them into effect. But God's wisdom sees that in fact it is more fitting that all things proceed along their natural path and order, and that in this manner the fertility that he placed inside each single being may become apparent and creatures may have the space to work for themselves towards attaining an ever greater perfection, as instruments of the divine wisdom, goodness, and power that is

> at work in them and with them. For in this a creature is filled with a greater joy, when it comes to possess what it has as the fruit of its own labor. (P 4.6)

Each creature's path is unique and thus the changing order of their central spirit is also unique. Thus, we can say that the tracking of the central spirit's change of orderings, which are the direct causal result of the actions of the individual's previous life, secures an individual's identity over time.

Conway maintains that every individual will be eventually brought to a state where it will never fall again.

> And thus every sin will have its proper punishment, and the Creature will eventually sense this pain and castigation, and it is through this that the Creature will once again be converted into its original state of goodness, the one into which it was created, and from which it cannot fall again. (P 7.1)

Conway is a universalist with respect to the salvation of creatures. While this process takes an infinite time, every individual eventually will remain in a state of creaturely perfection.

Unity in Multiplicity

Conway, like Cavendish, holds that an individual is made of multiple parts. And just like Cavendish, she too would seem to have a problem with explaining the unity of our experience as a self or mind. Conway only briefly addresses the issue of multiplicity and unity in the *Principles*, and it is clear that she is answering a criticism from Henry More.[22] Conway writes,

> Although the objects of our thought are many and we know, to give just one example, that I am manifold who receives many images from these objects, it nevertheless does not follow from the fact that I, who am thinking something, am a manifold thing, that I accordingly must see one object as if it were manifold, so that when I see one human, I should see many. For when many humans see one man, they do not see him as if there were many humans, but as if he were only one. Such is the case when I look around

[22] I would like to thank Colin Chamberlain for bringing my attention to More's argument. For Cavendish's possible reply to More, see Chamberlain, "What Is It Like."

> and I focus upon some thing with my two eyes, it is not seen by me as two (unless, perhaps, there is some confusion in my vision), but as one. And if I could see some thing with ten thousand eyes, just as I see with two, clearly this thing—whether it should be a horse, or a human—will appear to me to be one, and not otherwise. (P 7.4)

The issue being addressed is, how is it that a creature composed of parts can experience the unity of perception? Henry More raises this issue in his *Immortality*.

> But if every point or particle of this Matter could receive the whole image, which of these innumerable particles, that receive the Image entirely, may be deemed *I my self* that perceive this Image? For if I be all those Points, it will come to pass, especially in a small Object, and very neare at hand, that the line of impulse coming to divers and distant Points, it will seem to come as from severall places, and so one Object will necessarily seem a Cluster of Objects. But if I be one of these Points, what becomes of the rest? or *who* are they? (129–30)

More's criticism is directed at Hobbes's view that perception involves particles of matter from the perceived object pressing against the sense organs of the perceiver.[23] More believes that any materialist is committed to the divisibility of matter into point-sized particles and argues that these points must be what receive the image of the perceived object. This being the case, how can a multiplicity of points present an object as a whole? It seems that all the points will have to constitute either the self or the unity of perception, but then the image, of say, a human, will present itself as many humans. If the self is only one of these point-sized particles, then what are all the other particles doing?

Conway clearly believes, since she holds that there are a multitude of spirits/bodies in every individual, that More would think that his criticism applied to her view as well as Hobbes's view. However, Conway makes a fairly quick refutation of More's objection. She argues that we know in fact that a multitude of parts do create one image. Humans have two eyes both of which bring in sensory information about external objects, yet even though the information comes in via two distinct parts, we do not see objects as double. When I look at a horse, it does not appear to me as two horses even though

[23] More cites Chapter 25 of *De Corpore*.

we can see that each eye reflects the image of the horse. She claims that if we were to have a thousand eyes, we would still only see the horse as one.

Of course, Conway does not give an account of how our visual system turns this multiplicity of images into one whole. But it is sufficient to prove that it is not impossible that a multitude of parts can create a unity to show that it does in fact happen all the time. More's claim that a unity of experience requires that the subject be a single indiscerpible entity is unwarranted. As Conway notes above, "It nevertheless does not follow from the fact that I, who am thinking something, am a manifold thing, that I accordingly must see one object as if it were manifold" (P 7.4).

So, while Conway does not provide an account of the unity of our experience, it is clear that she believes that it is obvious that a multitude of parts can and do constitute one object of experience. Moreover, as we will see in Chapters 6 and 7, Conway's account of justice requires that an individual is a self who lives a good or evil life and is capable of receiving her due rewards or punishments.

We will further explore Cavendish's and Conway's accounts of perception in Chapter 5.

5

Causation and Perception

Debates about causation and perception were common in the seventeenth century. Proponents of the mechanical philosophy held that causation between bodies was due to impact or force. However, this explanation of the interaction of bodies did not suffice to account for how the mind moves a body or how gradual change occurs. Moreover, there were questions about whether causes were necessary and sufficient for their effects, and if so, what this meant for human freedom. This chapter examines Cavendish's views on causation and perception in light of Hobbes's views. I show that Cavendish holds that (1) there are two completely distinct types of causation, (2) self-moving matter is the only prime or principal cause in nature, and (3) the occasional cause is necessary (and as part of the entire cause, sufficient) for proper perception. This will lead to a new understanding of Cavendish's system, which has consequences for her views on freedom, which will be discussed in Chapter 6. With respect to Conway's views on causation, I argue that Conway, like Cavendish, holds that there are two types of causal relations. Conway argues that bodies are moved by resistance due to the fact that spirit comes in degrees of impenetrability, but she also maintains that bodies produce fine spirits that are continually exchanged with other bodies through an emanative process. These vital interactions occur when one individual perceives another individual. Finally, I turn to Conway's views on perception, cognition, and knowledge in light of her account of causation.

Cavendish on Causation and Perception

As I have noted, the study of natural philosophy was of central concern to Cavendish. Many philosophers of the period, following the Baconian method, held that seeking the causes of natural phenomena was the central project of natural philosophy. Cavendish thought that philosophy at least partly consisted in examining causes and effects. For instance, she writes that "natural philosophy is no more but a rational inquisition into the causes of

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natural effects" (OEP 158). Likewise, Hobbes thought that we used reason in order to attain knowledge of causes and effects. In *De Corpore*, he defines philosophy as follows:

> Philosophy is such knowledge of effects or appearances, as we acquire by true ratiocination from the knowledge we have first of their causes or generation: And again, of such causes or generations as may be from knowing first their effects. (EW 1:3)

Cavendish and Hobbes, who share a wholly materialistic conception of nature, both agree that the subject of natural philosophy is bodies in motion. Given that the knowledge of causes and effects is the aim of philosophy for both Cavendish and Hobbes, it makes sense that they both would provide an analysis of the relationship between causes and effects. Here, I will analyze Cavendish's views on causation while pointing out similarities and differences between her views and those of Hobbes. We know that Cavendish was familiar with Hobbes's views from reading English versions of *De Corpore* and *Leviathan* in addition to the fact that he was a frequent guest in the Cavendish household.[1]

When it comes to Cavendish's views on the nature of causation, there has been a fair amount of discussion in the secondary literature. For instance, both Eileen O'Neill and Marcus Adams claim that Cavendish, like Hobbes, holds that all causes must be "entire causes"; that is, all causes must be necessary and sufficient for their effects.[2] In addition, O'Neill goes on to claim that in the case of perception, where Cavendish holds an occasionalist account, the external object is merely a "moral cause," while the perceiver is the "principal cause" of the perception.[3] Likewise, Karen Detlefsen has also argued that in the case of perception the external object is a mere moral cause.[4] Detlefsen argues that not only are perceiving individuals the principal cause of their own perceptions, but that individuals within nature are

[1] Cavendish claimed that she never spoke more than twenty words to Hobbes, but his influence on her philosophy is widely recognized. For more on the relationship between Hobbes and the Cavendish family, see Hutton, "In Dialogue with Hobbes," and Whitaker, *Mad Madge*.

[2] O'Neill, "Introduction," xxxiii, and Adams, "Visual Perception as Patterning," 196.

[3] O'Neill, "Introduction," xxxiii. See also O'Neill, "Margaret Cavendish," 318: "The 'perfect and principal' cause is the 'nature' and internal force of an individual, while the external object is the moral cause." In addition, she claims that a " 'moral cause' is one that indirectly produces its effect by applying or inducing the primary cause, via example, command, advice, solicitation, or even local motion, to produce this effect" ("Introduction," xxx).

[4] Detlefsen, "Atomism, Monism, and Causation," 15–19.

the only principal causes; thus, she denies that nature as a whole is a principal cause. Here I will develop a new reading of Cavendish's account of causation that is strictly naturalistic, and which has interesting implications for her account of freedom.

Two Types of Causation

Cavendish holds that there are two distinct types of causation. The first is what we might call "substance transfer" and the second type is occasional causation. Like Hobbes, Cavendish holds that causation involves change in a body's motions. So, for instance in substance transfer, Cavendish holds that a part of one body will divide from that body and compose with another body. As Eileen O'Neill notes, "Cavendish insists that transeunt causation takes place all the time in animal generation and the varieties of 'respiration.'"[5] So it is the case that not all causation is occasional causation for Cavendish. But Cavendish maintains that motion can be transferred this way only because the motion is inseparable from matter. For instance, as was discussed in Chapter 4, when a child is conceived, matter from both the parents, along with the motions that cause human development, are transferred into the mother's womb. Likewise, when we digest food, some of the matter of the food changes from moving in a way consistent with being part of, say, a carrot, to moving in a way that constitutes bile or blood. Substance transfer can also happen by the impact or the force of one body upon another, but it is important to remember that Cavendish maintains that if motion transfers from one body to another body, matter must also be transferred because motion is not separable from matter. For Cavendish, this type of causation is an instance of the composition and division of parts, which occurs whenever a body grows or decays, and which involves contact between bodies.

In positing substance transfer, Cavendish might seem depart from Hobbes. She discusses Hobbes's example from *De Corpore*:

> [Hobbes says] *that, when the hand, being moved, moveth the pen, the motion doth not go out of the hand into the pen, for so the writing might be continued, though the hand stood still, but a new motion is generated in the pen, and is the pens motion*: I am of his opinion, that the motion doth not go out of the

[5] O'Neill, "Introduction," xxxv.

> hand into the pen, and that the motion of the pen, is the pens own motion. (PL 54)[6]

That Cavendish agrees with Hobbes that the motion is not transferred from the hand to the pen might make one think she does not have a substance transfer view. But as I have emphasized, her account of the transfer of motion is really the transfer of moving *matter* from one body to another, and this only occurs in the sorts of cases I mention above. In the passage just cited, Cavendish agrees with Hobbes that the motion from the hand does not transfer to the pen because she sees this as an instance of her second type of causation.[7] This second sort of causation—occasional causation—is due to the self-moving nature of composed bodies and does not involve the transfer of matter and motion, nor does it require contact between bodies. Cavendish provides an example in which a hand moves a string or ball.

> Therefore when a man moves a string, or tosses a ball, the string or ball is no more sensible of the motion of the hand, than the hand is of the motion of the string or ball; but the hand is only an occasion that the string or ball moves thus or thus. I will not say, but that it may have some perception of the hand, according to the nature of its own figure; but it does not move by the hand's motion, but by its own: for, there can be no motion imparted, without matter or substance. (OEP 140)

In occasional causation, one object serves as the occasion for another object to move via its own self-motion in reaction to the first object. Of course, this is just a general statement of how it works—exactly what the exterior object does to trigger the self-motion of the other object is what is crucial for an understanding of her account. It is true that in the case of the hand and ball, the ball moves by its own self-motion. But as Eileen O'Neill has pointed out, if the external object, the hand in this case, plays no role in the causal process, how is Cavendish not committed to full occasionalism? Hobbes might have a

[6] Cavendish cites Hobbes EW I.117.

[7] Cavendish's criticisms of Hobbes in this letter seem additionally odd because instead of talking about her own view of causation, she discusses Hobbes's claim that accidents (which she claims are just ways matter moves) are generated (a process she believes requires substance transfer) and perish (something that she thinks cannot happen in nature because all motions are repeatable). Cavendish does address the possibility of motion transfer a few pages later. There she argues that if the motion is incorporeal, then it is a mere nothing or a devil, angel, or supernatural soul, which she thinks have better things to do. If the motion is corporeal, she argues, the hand would lose strength with every effort because it must lose matter as well. So there must be an additional sort of causation (PL 77–79).

similar problem. In his denial of motion transfer, he argues that when a hand moves a pen, the hand does not transfer its motion to the pen, "but that one accident perisheth, and another is generated" (EW 1:117). But what does the hand do to cause the generation of a new accident in the pen? Since Hobbes denies self-motion, it seems he has no answer to this question.[8] But as we will see, Cavendish, in subscribing to both self-motion and Hobbes's account of entire causes, can provide a more satisfactory account.[9]

Entire and Principal Causes

As noted above, commentators have already shown that Cavendish accepts Hobbes's account of "entire causes."[10] In *De Corpore* IX.3, Hobbes writes,

> But a cause simply, or an entire cause, is the aggregate of all the accidents of both of the agents how many soever they be, and of the patient, put together; which when they are all supposed to be present, it cannot be understood but that the effect is produced at the same instant. (EW 1:121–22)

Here we have Hobbes's account of entire cause, which includes all the properties of both the external object and the perceiver. Cavendish, of course rejects Hobbes's account of the perceiver as a patient or passive entity, as well as his view that perception occurs as a result of mechanical pressure relayed to the senses by movements from the external object. However, Cavendish does agree that causation occurs as a result of motions in *both* bodies. But since Cavendish holds that every body has its own self-motion, she denies that any bodies are merely passive or that all perception is caused by pressure or contact. Adams, O'Neill, and Michaelian agree that Cavendish accepts this account of entire causes. And they all rightly note that Cavendish takes the fact that causes must be necessary and sufficient for their effects to show that external bodies cannot be the entire cause of a perception. Adams writes,

[8] According to Hobbes, "That which rests, is understood to rest always, unless some other body is together with it, by which assumption, it is not able to rest any longer" (OL 1:102). Hobbes argues in the continuation of this passage that without a sufficient cause to move in any particular direction a body will remain at rest. But he does not explain how it is that a body can cause another body that is at rest to generate motion.

[9] I would like to thank Marcus Adams for bringing this to my attention.

[10] Note that O'Neill calls them "principal causes," even though she is referring to Hobbes's account of entire causes.

> With this understanding of *causa integra*, for Cavendish the internal self-motions of patterning and figuring are both necessary and sufficient causes for human visual perception or for self-motions that are indistinguishable from human visual perception, like dreaming. Another way of putting this point is that since causes are always necessary for their effects on the *causa integra* view, external bodies cannot be the cause of patterning since patterning can occur without any such external objects being present.[11]

I too agree that Cavendish subscribes to the Hobbesian account of entire causes, but there are two important modifications I want to add to this general account. First, while it is true that Cavendish does not think that the external object is the entire cause of perception, she does think that it plays an important role in perception. Consider the following:

> The Sensitive motion and matter in the Ears receives Words or Sounds, as the Sensitive matter and motion in the Eye doth receive Objects, *for the Motion of the Objects are not the only Cause* of Hearing or Seeing, or the Effects of the other Senses, but the Motions in the Senses make such Motions as the Objects. (PPO 299; emphasis added).[12]

Here Cavendish tells us that the motions of outward objects are *not the only cause* of perception, and she means that they are a cause in conjunction with the self-motion of the perceiver. But what exactly do external objects do that distinguishes Cavendish's occasional causation from full occasionalism? One obvious answer is that they are causes in virtue of their power of self-motion. According to Cavendish, individual bodies are not causally inert so that some other entity—God, for instance—needs to be the sole cause of motion.[13] So Cavendish is not a full occasionalist in the way that Malebranche is. But then

[11] Adams, "Visual Perception as Patterning," 196.

[12] Compare to *Philosophical Letters*: "But yet I do not say, that the motion of the hand doth not contribute to the motion of the bowl; for though the bowl hath its own natural motion in itself, . . . nevertheless the motion of the bowl would not move by such an exterior local motion, did not the motion of the hand, or any other exterior moving body give it occasion to move that way; *Wherefore the motion of the hand may very well be said to be the cause of that exterior local motion of the bowl*, but not to be the same motion by which the bowl moves" (PL 447–48; emphasis added).

[13] Occasional causation, as defined by Steven Nadler, "denotes the entire process whereby one thing, A, occasions or elicits another thing, B, to cause e. Even though it is B that A occasions or incites to engage in the activity of efficient causation in producing e, the relation of occasional causation links A not just to B, but also (and especially) to the effect, e, produced by B." This is in contrast to occasionalism of the sort attributed to Malebranche. See Nadler, "Descartes and Occasional Causation," 39.

one might worry that Cavendish's view is closer to Leibniz's preestablished harmony where the individuals are all self-moving but have no real external relations between them.[14] However, I do not think this is true. In order to see why, we first have to understand that for Cavendish the entire cause is not just the sentient, or in the case of perception, the perceiver. Rather, like Hobbes, Cavendish holds that the entire cause involves *both* of the bodies. In addition to the passage cited above, evidence for this view is that Cavendish believes that in cases of perception, whenever we are presented with external objects and our senses are working regularly, we pattern those object *as they are*.

> But I will conclude this Chapter of Colours with an Answer to Two Questions, the First is, Whether all Creatures see all Objects alike? My Answer is, that if the Sight be Perfect, and without Imperfection, they do, but if the Sight be Imperfect, either by Nature or Accident, or be Overpowered, they do not . . . but Particulars are no Objection against the General, for surely an Eye is Nature's Press, to Print all Outward Objects that are Presented to it, the like are all the rest of the Senses. (PPO 217–18)

> It is the perceptive motions of the eye, which pattern out an object as it is visibly presented to the corporeal motions in the eye; for according as the object is presented, the pattern is made, if the motions be regular. (PL 510–11)

> So soon as the object is removed, the sensitive perception is altered. (OEP 33)

> For the effects flow from the cause; and as the cause is, so are its effects. (PL 197; see also PL 269)

In these and many other passages, Cavendish maintains that our sense organs, insofar as they are working normally, produce adequate copies of exterior objects. She does spend some time discussing how this otherwise reliable system can make mistakes and errors, but she notes these particular issues do not violate the general rule that our senses are such that they pattern external objects "as they are." When my eyes are open and functioning properly (as human eyes), I cannot help but pattern the objects in my visual array, and the

[14] For the account of Leibniz's preestablished harmony see Leibniz, "New System."

same goes for my other sense organs. If the objects are removed or change, so does my perception of them. This shows the dependence of my perceptions on the actual objects presented. However, one might worry that cases of optical illusion might undermine this claim. Kourken Michaelian has argued that Cavendish holds that illusions are due to mistakes in the senses.[15] He claims that this occurs when "the sensitive motions in the perceiving thing, although 'regular,' make an incomplete copy of the figurative motions of the perceived thing."[16] He quotes the following passage from Cavendish as an example:

> According as the object is presented, the pattern is made, if the motions be regular; for example, a fired end of a stick, if you move it in a circular figure, the sensitive corporeal motions in the eye pattern out the figure of fire, together with the exterior or circular motion, and apprehend it as a fiery circle . . . ; so that the sensitive pattern is made according to the exterior corporeal figurative motion of the object, and not according to its interior figure or motions.[17]

Michaelian claims the fiery circle is an optical illusion, and he writes that "in this case, the exterior motions of the object are patterned out but its interior motions are not, giving rise to an inaccurate (because incomplete) copy."[18] The quotation he presents might lead one to think that the perception of the circular figure of fire is incomplete because the interior figure or motions of the stick are not patterned. If Michaelian believes perceptions are incomplete due to a lack of patterning of interior natures, then he is mistaken. For Cavendish is clear that we never perceive or pattern the interior natures of things, as to pattern the interior nature of something is to become that thing.[19] Cavendish writes,

[15] For further discussions of perceptual errors in Cavendish, see Boyle, "Informed by Sense," 241; and Adams, "Visual Perception as Patterning," 200.

[16] Michaelian, "Margaret Cavendish's Epistemology," 43.

[17] Michaelian, "Margaret Cavendish's Epistemology," 43. He cites PL 511.

[18] Michaelian, "Margaret Cavendish's Epistemology," 44.

[19] Recall Cavendish holds that every object has exterior and interior figure and motions. The interior figures and motions make a thing what it is.

> And it is to be observed, that in composed figures, there are interior and exterior parts; the exterior are those which may be perceived by our exterior senses, with all their proprieties, as, colour, magnitude, softness, hardness, thickness, thinness, gravity, levity, etc. *But the interior parts are the interior, natural, figurative motions, which cause it to be such or such a part or creature*: As for example, man has both his interior and exterior parts, as is evident; and each of them has not only their outward figure or shape, *but also their interior, natural, figurative motions, which did not only cause them to be such or such parts; (as for example, a leg, a head, a heart, a spleen, a liver, blood, etc.) but do also continue their being*. (OEP 162; emphasis added)

> Nor can I believe, that the exterior parts of objects are able to inform us of all their interior motions; for our human optic sense looks no further than the exterior and superficial parts of solid or dense bodies, and all creatures have several corporeal figurative motions one within another, which cannot be perceived neither by our exterior senses, nor by their exterior motions: as for example, our optic sense can perceive and see through a transparent body; but yet it cannot perceive what that transparent body's figurative motions are, or what is the true cause of its transparentness. (OEP 59)[20]

Michaelian acknowledges that patterning cannot entail that something becomes the thing patterned according to Cavendish. He writes,

> Although patterning out is a sort of copying, it is an imperfect copying: when the figurative motions of a thing pattern out those of another thing, the former does not come to instantiate the very same figure as the latter, any more "than when a painter draws a fire or light, the copy should be a natural fire or light"; there is always a difference between the copy and the original of which it is a copy [OEP 187]. This allows Cavendish to account for the possibility of multiple, distinct perceptions of the same thing [PL 74], and, more importantly, to avoid saying that perceiving a thing is a matter of coming to resemble it.[21]

So these perceptions are not incomplete because they do not include perceptions of the interior natures of things. In truth it seems that Cavendish is not all that concerned with optical illusions, as the term "illusion" does not appear in her philosophical essays. Rather, she seems to think that the fiery circle is a true perception of the phenomena and is not a mistake. That is, she believes that when we pattern the fire or light along with the circular motion of stick, we correctly perceive it as a fiery circle. However, Cavendish does cite two examples that do seem to be illusions—the case of a person on a moving ship who believes it is the shore moving rather than the ship, and a person looking in a mirror while walking backward from it who believes the image in the mirror is going further inward. These cases Cavendish says are "neither perfect mistakes, nor delusions, but onely want of a clear and thorow perception" (PL 510). The problem, as she sees it, is not that we do

[20] Cavendish does think that reason can "guess at" the interior natures of things.
[21] Michaelian, "Margaret Cavendish's Epistemology," 39–40.

not pattern the interior of objects, but rather due to the limitations of human sight, we cannot pattern the motions of the distance or medium between us and a perceived object.

> The cause of it is, That the perception in the eye perceives the distanced body, but not the motion of the distance or medium; for though the man may partly see the motion of the visible parts, yet he doth not see the parts or motion of the distance or medium, which is invisible, and not subject to the perception of sight; and since a pattern cannot be made if the object be not visible, hence I conclude, that the motion of the medium cannot make perception, but that it is the perceptive motions of the eye, which pattern out an object as it is visibly presented to the corporeal motions in the eye; for according as the object is presented, the pattern is made, if the motions be regular. (PL 510–11)

Illusions are due to a lack of patterning of the subtle matter of air, light, or reflective mediums, according to Cavendish. But since illusions result from not patterning those objects imperceptible to human sight, we cannot say that they provide evidence for the claim that exterior objects are neither necessary nor sufficient for perception. We can only perceive perceivable objects and no account of perception should say otherwise. So now we must turn to the cases that are more often cited as proving that external objects are not necessary or sufficient for perception—dreaming and being pinched without noticing it.

Due to cases of dreaming, Marcus Adams claims that Cavendish holds that "external bodies cannot be the cause of patterning since patterning can occur without any such external objects being present."[22] In addition, Karen Detlefsen has claimed that "the constraint exercised [by the occasional cause] is neither necessary nor sufficient for the action to occur."[23] Eileen O'Neill also claims that the cases of dreaming or distraction indicate that the external object is neither necessary nor sufficient for perception.[24] However, once we dig a bit deeper into Cavendish's account, we will see that these cases do not justify these claims.

[22] Adams, "Visual Perception as Patterning," 196.
[23] Detlefsen, "Atomism, Monism, and Causation," 234.
[24] O'Neill, "Introduction," xxxiii.

Dreams and Double Perception

In the case of dreams, Cavendish tells us that the rational parts move *by rote*, that is, they move by a pattern (or at least by a very similar pattern to one) that they have made before. Like memory, the motions of dreams require prior experience of the object. So the object need not be present when we remember or dream about it, but we cannot produce a thought of an object without having patterned it, or something like it, before.[25] Cavendish calls these motions "figuring" motions rather than patterning. "Figuring" is a more general term for motions; patterning is a type of figuring. She writes,

> Working by rote, and by Sensible remembrance, they Work falsly, which causes the Rational motions to move Erroneously in Sleep, by reason the Rational moves according, for the most part, to the Sensitive Prints or Pictures; but sometimes the Sensitive, and so the Rational, moves just to those Objects, that have been formerly Printed on the Outside of the Sensitive passages, and then those Sensitive motions cause Perfect Dreams. (PPO 283)

> But Dreaming is, when they move in Figures, making such Figures, as these Objects, which have been Presented to them by the Sensitive motions, which are only Pictures or Copies of the Original Objects, which we call Remembrance, for Remembrance is nothing but a Waking Dream, and a Dream is nothing but a Sleeping Remembrance. (PPO 286)

> But Dreams, according to my opinion, are made by the Sensitive and Rational Corporeal Motions, by figuring several objects, as awake; onely the difference is, that the Sensitive motions in Dreams work by rote and on the inside of the Sensitive organs, when as awake they work according to the patterns of outward objects, and exteriously or on the outside of the sensitive Organs, so that sleep or dreams are nothing else but an alteration of motions, from moving exteriously to move interiously, and from working after a Pattern to work by rote. (PL 28–29)

[25] Cavendish sometimes claims that we can imagine things that we have never experienced and that this is due to the rational parts' ability to move without the sensitive. However, she does not provide examples. It is likely she is thinking of instances of recombination like her fishmen and bearmen or the rocks that produce fire when wet in BW. In which case, she is imagining combinations and mixed beings based on real entities.

> When outward objects present themselves to the optic sense to be perceived, the perception of the sentient is an occasioned perception; but *whensoever, either in dreams, or in distempers, the sensitive motions of the same organ, make such or such figures, without any presentation of exterior objects, then that action cannot properly be called an exterior perception*; but it is a voluntary action of the sensitive motions in the organ of sight, not made after an outward pattern, but by rote, and of their own accord. (OEP 20; emphasis added)

> But it is well to be observed, that, besides those exterior perceptions of objects, there are some other interior actions both of sense and reason, which are made without the presentation of exterior objects, voluntarily, or by rote; *and therefore are not actions of patterning, but voluntary actions of figuring*: . . . And therefore it is well to be observed, that figuring and patterning are not one and the same; figuring is a general action of nature: for, all corporeal actions are figurative, whenas patterning is but a particular sort of figuring. (OEP 170; emphasis added)

> For though the Animate motions oftentimes move and work as Actively to Sleep, and in Sleep, yet it is easier to move Voluntarily, than when they are Bound to Outward objects, as to Work upon Constraint and Necessity. (PPO 280)

As Michaelian notes, "Dreaming, for example, will not count as perception" because dreaming is not patterning, but rather one of the motions made by rote.[26] So the fact that we can have a figurative motion that creates images in our sleep without external objects does not mean that perception properly so called can happen without exterior objects. Thus, the claims that dreaming shows that exterior objects are not causally necessary for proper perception are false.

The claim that exterior objects are not sufficient for perception, however, is largely based on passages where Cavendish claims that a person can be pinched and not notice it. She explains the case as follows:

> Suppose a man be in a deep contemplative study, and somebody touch or pinch him, it happens oft that he takes no notice at all of it, nor doth feel it; whenas yet his touched or pinched parts are sensible, or have a sensitive perception thereof; also a man doth often see or hear something, without minding

[26] Michaelian, "Margaret Cavendish's Epistemology," 41.

> or taking notice thereof, especially when his thoughts are busily employed about some other things; which proves, that his mind, or rational motions, work quite to another perception than his sensitive do. (OEP 150; cf. PPO 293)

In proper perception, Cavendish holds that the sensitive parts, or sense organs, pattern external objects and the rational parts pattern the sensitive objects. She calls this "double perception," and it explains how we get information from the senses and into the mind. In the case of the pinch that goes unnoticed, Cavendish thinks that the sensitive parts do pattern the pinch, so patterning does occur. It is simply that the rational parts are so preoccupied that the sensitive patterning goes unacknowledged by the mind. That is, the double perception that normally occurs fails in this case. This is similar to cases when one has been driving for a while and realizes that one has not been paying attention. The driving was still happening—the eyes were looking at the road, the foot was pressing the gas—but the mind was elsewhere. As Cavendish concludes:

> Therefore it may very well be, that a man in a deep contemplative study, doth not always feel when he is pinched or touched; because all the rational motions of his body concur or join to the conception of his musing thoughts; so that only the sensitive motions in that part, do work to the perception of touch; whenas the rational, even of the same part, may work to the conception of his thoughts. (OEP 152)

This case only shows that the mind can be so preoccupied that we do not notice our sensations. It does not show that "the principal cause acts entirely on its own" without exterior objects.[27] Rather, in the case of the pinch, the object causes the appropriate perception in the sensitive matter, but the rational matter fails to pattern the sensitive perception as it normally does. These often-cited cases do not prove that the external object is neither necessary nor sufficient for perception. Of course, it is true that actions made by rote in memory, dreams, or delusions do not require the external object's presence, but since these are cases of figuring rather than patterning—that is, they are not cases of proper perception at all—the claim that external objects constitute part of the entire cause of perception stands.

[27] Detlefsen, "Atomism, Monism, and Causation," 234.

But there is a further advantage to interpreting Cavendish's account this way. The cases of delusion and dreaming can help us to understand the causal role of the occasional cause.[28] In the case of dreaming, as noted above Cavendish tells us that the external sensory organs of the perceiver do not pattern an external object; rather they move by "rote" or memory (actions she associates with voluntary motions). In dreams, as the quotations given indicate, motions begin in the interior parts of the body and are figured on the inside of the sensory organs, while in cases of proper perception the motions begin on the outside of our sensory organs and move inward to the nerves and brain. Cavendish writes:

> The sensitive corporeal motions having their proper organs, as Work-houses, in which they work some sorts of perceptions, those perceptions are most commonly made in those organs, and are double again; *for the sensitive motions work either on the inside or on the outside of those organs, on the inside in Dreams, on the out-side awake*. (PL 19; emphasis added; see also OEP 20)

> The Difference between Sleeping and Waking, is, that in Sleep the Sensitive Animate matter and motions Work on the Inside of the Sensitive passages, as they do when as Awake on the Outside of the Sensitive passages, and when as the Sensitive motions Work on the Inside of the Sensitive passages, they Work by Rote, that is, they Work as to make Prints and Figures on the Inside of the Sensitive passages, without the Help or Patterns of Outward objects. (PPO 282)

Cavendish's accounts of dreaming are usually given in contrast to cases of proper perception, in which the exterior object is the occasion of the patterning of the exterior parts of our sensory organs, which information is then relayed inward to the brain.[29] Thus, we can conclude that in cases of proper perception the existence of the exterior occasional cause determines

[28] This is a problem that troubled Eileen O'Neill, and I am grateful to her for pressing me to provide an account.

[29] Consider a passage that may cast doubt on this reading: "It is true, by Experience we find, that without an Eye we cannot see Outward objects as they are without us, yet we see those Objects as they are without us in our Sleep, when our Eyes be shut: Thus the Sense of Seeing is not lost, although the Eyes were out, and the Optick Nerves stop'd up" (PPO 294–95). The context of this passage is Cavendish's objection to the idea that all figures in the mind come in through the eyes. Cavendish argues in the quote above that (1) we "see" figures in our minds when we dream, but when we dream our eyes are closed and our optic nerve is "stop'd up." She goes on to argue that (2) the motions of the brain are motions of rational matter, and those motions are always figurative whether it is thinking, imagining, dreaming, or receiving nonoptical sensory information (PPO 259–99).

the *direction* of the causal process from exterior to interior. Without the occasional cause, the figurative motions, if any, would move in a different direction—from the brain to the inside of the sense organs. In this way, we can claim that *the occasional cause does do something*. It does affect the perceiver, as it brings about a direction of causality within the perceiver that would not occur if it were absent.[30] If the external object does determine the direction of causation, it would seem that the individual is not completely self-determining with respect to their perceptions. Although it is still true that the perceptive motions in the perceiver's sensory organs and mind are self-motions, these motions are affected by the presence or absence of the exterior object. Moreover, this explains why Cavendish calls occasioned action "necessary" or "forced." For example, she writes, "That exterior body is the occasion that it moves after such a manner or way, and therefore this motion of the line, although it is the lines own motion, yet in respect of the exterior body that causes it to move that way, it may be called a forced, or rather an occasioned motion" (PL 443). In addition, in her criticism of Hobbes's account of voluntary motions, she writes, "they cannot properly be called voluntary, but are rather necessitated, at least occasioned by the Mind or Fancy; for I oppose voluntary actions to those that are occasioned or forced."[31] I will return to issues of voluntary and free actions in Chapter 6.

I have here argued that, for Cavendish, the external object is an occasion for the perceiver to pattern via its own power of self-motion the external object, but in addition I have argued that this occasional cause is part of the entire cause in cases of proper perception. The external object contributes in two ways: first, the external object's proprieties (Cavendish's term) determine the content of the perception of the perceiver when the perceiver's organs are in normal working order; second, the external object determines the direction of causation within the perceiver. Without the external object, the sensitive and rational matter may move figuratively to create dreams, imaginings, or fancies, but these are not cases of proper perception. In addition, in cases of dreaming, the figuring is done on the inside of the sensory organs rather than on the outside.

The picture painted so far looks to be in keeping with Hobbes's causally deterministic view of the world. But we might still claim that because perceivers

[30] It should be noted that David Cunning, "Cavendish on Causation," 153, agrees that the external object is sufficient for changes in the "direction of motion" in the perceiver. Cunning claims that the occasional cause somehow redirects some of the motions (the quantity of which remains constant) of the perceiver. I take myself to be providing an account of how the occasional cause affects the motions of the perceiver.

[31] OEP 1666, 55.

have self-motion, they are still self-determining, and so Cavendish's system allows for nondeterministic processes in a way that Hobbes's account does not. Next, I will consider Karen Detlefsen's argument that individuals are not subject to any sort of causal determinism. I will argue that Cavendish holds that nature is the only principal cause.

Nature as the Principal Cause

As we have seen, for Cavendish, perception involves occasional causation, which Cavendish calls "patterning." The ball patterns the motions of the hand and moves itself in accordance with this perception. But the seemingly conclusive cases of dreams and delusions (which I have argued against) provide reason for Karen Detlefsen to think that the "principal cause" (which she takes in this case to be the ball) is completely free. Detlefsen argues there are three reasons for believing that occasional causation supports libertarian freedom. She writes:

> Principal causes that are encouraged to act in a specific way by occasional causes are free, of course, for the following reasons: the constraint exercised is neither necessary nor sufficient for the action to occur; the principal cause is self-moved; and the principal cause acts in accordance with its own reasons. But the occasional cause exercises some constraining influence—a moral influence—over the actions of the principal cause.[32]

So the principal cause must be radically free because the occasional cause is neither necessary nor sufficient for the action of the principal cause, the principal cause moves itself, and the principal cause acts by its own reasons. I have already shown that the occasional cause is necessary and, when acting as part of the entire cause, sufficient for cases of proper perception. But Detlefsen claims in several places that self-motion and reason are sufficient for libertarian freedom. However, it seems that this is not so. Having the power to move oneself and the power of reason are compatible with determinism. After all, there are many compatibilist accounts that hold that we are self-moving and (at least somewhat) reasonable—Locke's, Leibniz's, and others'.[33] In addition, I nowhere find Cavendish discussing a part moving

[32] Detlefsen, "Atomism, Monism, and Causation," 234. O'Neill also claims that the exterior object is merely a moral cause ("Introduction," xxx–xxxiii).

[33] See Sleigh, Chappell, and Della Rocca, "Determinism and Human Freedom."

"in accordance with its own reasons." Nevertheless, we should still examine the parts of Detlefsen's argument that do not depend just on occasional causation. In a passage claiming the parts of nature are not necessitated, she implies that if nature were a principal cause and the parts of nature "mere effects," necessitation would hold. She writes,

> The theory of occasional causation supports a view of nature in which natural parts themselves act as principal causes and are not necessitated to behave in a certain way. They are necessitated neither by nature as a whole imposing, from the top down, specific interrelations among the parts (which then become mere effects and not causes at all), nor by occasional causes necessitating that the principal cause act in a specific fashion. That is, they are free from extrinsic control.[34]

Cavendish seems to use the language of principal causes and prime causes interchangeably, and she is pretty clear about what counts as a prime or principal cause.

> But there is but one onely chief and prime cause from which all effects and varieties proceed, which cause is corporeal Nature, or natural self-moving Matter, which forms and produces all natural things. (PL 237)

> Matter is the prime cause of Figure, but not Figure of Matter, for Figure doth not make Matter, but Matter Figure, no more than the Creature can make the Creator, but a Creature may make a Figure. (PPO 93)[35]

> But, to conclude, human sense and reason perceiveth, that from Few, indeed, but from One Principle, (as the Only matter) Infinite Effects do proceed. (PPO 8)

> But, in my opinion, Water, and the rest of the Elements, are but effects of Nature, as other Creatures are, and so cannot be prime causes. (PL 234)

[34] Detlefsen, "Atomism, Monism, and Causation," 234.

[35] Note this interesting exception to the rule:

Was not God able to give self-motion as well to a Material, as to an Immaterial Creature, and endow Matter with a self-moving power? I do not say, Madam, that Matter hath motion of it self, so, that it is the prime cause and principle of its own self-motion; for that were to make Matter a God, which I am far from believing; but my opinion is, That the self-motion of Matter proceeds from God, as well as the self-motion of an Immaterial Spirit; and that I am of this opinion, the last Chapter of my Book of Philosophy will enform you, where I treat of the Deitical Centre, as the Fountain from whence all things do flow, and which is the supream Cause, Author, Ruler and Governor of all. (PL 179)

According to Cavendish, the prime cause is matter, which is all of nature. She is also pretty clear about what the effects of matter are—everything in nature. She notes that these effects, however, are also causes.

> There are Infinite effects and every produced effect, is a Producing effect, which Effect produces Effects, and the only matter is the cause of all Effects. (PPO 100)

> To treat of Infinite Effects, produced from an Infinite Cause, is an endless Work, and impossible to be performed, or effected; only this may be said, That the Effects, though Infinite, are so united to the material Cause, as that not any single effect can be, nor no Effect can be annihilated; by reason all Effects are in the power of the Cause. But this is to be noted, That some Effects producing other Effects, are, in some sort or manner, a Cause. (GNP 15)

Detlefsen claims that we must choose whether we want to say that nature is the principal cause and that all causation is "top-down" or whether individuals are the real principal causes. She goes for the latter claim, saying that "we need to deny that nature is principal cause in a natural, physical sense" in order to hold that individuals are principal causes.[36] Instead of holding that nature is a principal physical cause, Detlefsen argues that Cavendish must hold that nature is merely a moral cause.[37] Detlefsen acknowledges that this goes well beyond the text. There is nowhere in Cavendish's corpus where she speaks of moral causes. But, as noted above, there are many places where Cavendish calls nature the prime and principal cause. In addition to claiming that nature or only matter is the prime cause of all her effects, Cavendish also claims that all these effects constitute the one body of nature.

> For my opinion is, that they are all but one matter, and *one material body of nature*. And this is the difference between the cause or principle, and the effects of nature, from the neglect of which, comes the mistake of so many authors, to wit, that they ascribe to the effects what properly belongs to the cause, making those figures which are composed of the aforesaid animate

[36] Detlefsen, "Atomism, Monism, and Causation," 236.

[37] Detlefsen's argument follows O'Neill's discussion of occasional causes being principal causes ("Introduction," xxx–xxxiii).

> and inanimate parts of matter, and are no more but effects, the principles of all other creatures. (OEP 206; emphasis added)

> There is infinite nature, which may be called general nature, or nature in general, which includes and comprehends all the effects and creatures that lie within her, and belong to her, as being *parts of her own self-moving body*. (OEP 197; emphasis added)

Detlefsen says that she takes seriously Cavendish's claim that nature is one body, but she seems to think that it implies top-down causation. However, as we saw in Chapter 2, this is not the case. It is obvious that living bodies do not operate in a completely top-down manner. Rather, there is some degree of top-down causation, but there is also bottom-up causation, and lateral causation within the systems and structures of the body. Cavendish holds that there are bodies within bodies in nature, and each of these bodies has its own particular figurative motions that form causal systems that perform the functions of various organs, circulate blood, push oxygen into the lungs, and expel waste through the intestines. The fact that nature works like a body explains why Cavendish's texts sometimes look like she is positing a top-down system and sometimes a bottom-up system—both are included.

I have argued that Cavendish's system is more deterministic and closer to that of Hobbes than other commentators have thought. In doing so, I have argued that her account of perception does not entail that perceivers are the entire cause of their perceptions and that Cavendish thought that matter was the only prime and principal cause in nature. This interpretation is more naturalistic than others on offer and eschews any teleological or normative structure in Cavendish's system of nature. This I take to be more in keeping with her aims of constructing a natural philosophy that adequately accounts for the movements of the organic bodies in nature.

Conway on Mechanical Causation

Recall from Chapter 3 that Conway accepts two types of motion: mechanical, or local, motion and vital motion. So, while most commentators have argued that Conway's account of interaction is, as Carol White notes, "by a process analogous to emanation or radiation," it seems that Conway must allow for at

least two types of causation.[38] One type is the way that a body moves another body by resistance. This is her mechanical account of causation. The second type involves vital motion and is the way in which one creature affects another through the senses.

Conway's acceptance of a mechanical account of causation is meant not only to accommodate our experience of the world (the fact that we see bodies impact one another), but also to show that her account of soul and body as varying degrees of the same substance has a distinct advantage over traditional dualist accounts like those of Descartes and More. Conway argues that because both the soul and the body have degrees of density, the soul can move the body by resistance.

Conway is critical of the views that Descartes and More offer to explain how the soul moves a body. She objects to Descartes's account because soul as an intelligent perceptive thing has nothing in common with Cartesian bodies. Descartes, she writes, holds that "every body is a mere dead mass (*massam mortuam*), one that is altogether not alive and is lacking perception of any kind whatsoever and it is altogether incapable of this for all eternity" (P 9.2). Likewise, she criticizes More, even though he holds that soul and body are both extended things and so share at least one property. She objects to More's claim that the body and soul share a "vital congruity" as "empty words, ones that make a sound but lack any signification" (P 8.1).[39] Sarah Hutton explains that More's "vital congruity" is the claim that a soul has "an Aptitude of vital Union" with matter and that the matter is "prepared" for receiving the soul.[40] Conway rightly sees this definition as the bare insistence that souls and bodies are united.

Conway also argues against Descartes and More that it seems impossible for a soul to move a body on their accounts because a soul as an immaterial entity is completely penetrable and a body is completely impenetrable. She asks,

> How can a spirit move its body or any of its members, if spirit is (as they assert) a nature of the sort where no single part of its body in any way resists it, as one body is accustomed to resisting another when it is moved by it

[38] White, *Legacy of Anne Conway*, 58. See also Lascano, "Bodies in the Spiritual World," 331; Hutton, *Anne Conway*, 14; and Thomas, "Conway on the Identity," 144.

[39] As Sarah Hutton has argued, while Conway names Descartes in her criticisms of dualism and avoids mentioning More's name, her use of the term "vital congruity" makes it clear that her main target is More. See Hutton, *Anne Conway*, 87–93.

[40] Hutton, *Anne Conway*, 90.

> on account of its impenetrability? For if spirit easily penetrates every body, why does it not leave the body behind when it moves from place to place, especially since it can move about without the greatest or smallest resistance? (P 8.1)

According to the mechanistic account of how bodies move that both Descartes and More accept, bodies must be moved by impact or resistance. However, this explanation will not work for the movement of the body by an immaterial soul, and they provide no other account of the motion of bodies. Given that this is so, it seems that they are violating their own principles about bodies. Since bodies are merely dead masses according to these philosophers, any account of how they are moved by vital motions seems doomed to failure. However, Conway's own account of soul and body fares better because she holds that bodies and souls are the same living substance, which comes in degrees of impenetrability. It is this impenetrability that allows for resistance and local motion. She writes,

> Plainly, this is the cause of all the motions that we see in the world, when one thing may move another, namely that, both are impenetrable, in the sense described above. Were it not for this impenetrability, one creature could hardly move another, since the one could not press upon the other, nor could one in any way resist the other. We have an example of this in the case of the sail of a ship, by means of which the wind pushes the ship and the fewer holes, pores, and passages in the sail that it is pressing upon the more vehemently it does so. For, on the contrary, if in place of sails one unfolded nets through which the wind might freely pass, clearly the boat would barely be moved by the wind, even if it were blowing violently. Here, we see how impenetrability causes resistance and thus brings about motion. If, however, there were no impenetrability (as is [allegedly] the case with spirit and body), then there could not be resistance and, as a consequence, no motion of a body could be brought into being by a spirit. (P 8.1)

When it comes to the local motion of one body as it is caused by another body or soul, it is necessary that there be a certain degree of impenetrability, so that the body or soul might press upon a body and cause resistance and motion. Conway's analogy with the ship and sail offers an illustration of this point. The soul is like the sail of the ship. If a soul could completely penetrate

a body, then it could not cause the motion of a body, as it would pass right through it. However, since Conway believes that spirit comes in degrees of impenetrability, even the most refined finite spirit is capable of moving the dense spirit that we call body.[41]

Her mechanical account of motion plays a role in vital interactions as well. Conway argues that figure (which she says is reducible to extension) and life are distinct attributes of spirit and that figure is in service of vital motion. She writes, "Figure and life exist together in one substance or body, where the figure is the instrument of life and no operation of life can be perfected without it" (P 9.8). The figures of sense organs and the other parts of bodies are designed in such a way as to allow for the local motions of light and air to be received. These local motions are necessary for the operations of life (sensation and perception), and the two types of motions come together in our vital operations. These vital operations are the ways that creatures affect each other, and it is to these we now turn.

Sympathy and Vital Interaction

As was noted earlier, Conway's views are deeply indebted to Platonism. The emanation of some of God's perfections to creatures through Christ causes all of creation to be of one substance and essence. Unlike some philosophers, Conway denies that God emanates all of his attributes. One that is incommunicable is his independence (P 7.2).[42] Thus, neither the whole of creation nor any part of it is independent. Creatures not only depend upon God for their existence and nature, but also require the constant aid and assistance of other creatures in order to live and improve.

> Here, it appears to us, there is a great difference between God and creatures. For he is one and this is his perfection: that he requires no thing outside himself. But because a creature requires the assistance of its fellow

[41] Conway answers the objection that God can move bodies even though he is completely incorporeal by noting that God moves bodies by intimate presence, which no finite creature is capable of doing, as was discussed in Chapter 3. See Broad, "Conway and Charleton," for more on intimate presence and the movement of bodies.

[42] Christia Mercer notes in "Seventeenth-Century Universal Sympathy" that many Platonists who held emanative accounts of creation thought that God emanates all his being (without diminishing himself) to creatures, and notes that self-sufficiency or independence was held to be emanated to creatures from God by Jan Baptist van Helmont. However, I believe Mercer and I agree that for Conway it is only the communicable perfections which God emanates.

> creatures, it must be manifold so that it can receive this assistance. For that which receives something is nourished by it, and thus becomes a part of it. Accordingly, that is no longer one, but it is many and indeed is a complex of as many things as it receives, and even of a greater multiplicity. Thus, therefore, there is a certain society among creatures in giving and receiving, whereby they mutually subsist through one another, so that one creature cannot live without another. For in this entire universe, can any creature be found that operates without the aid of its fellow creatures? Clearly, none. (P 7.4)

According to Conway, because creatures are not self-sufficient or independent, they rely on help from others. Creatures give and receive from each other and, as Conway says, "are nourished" by what they receive. In addition, what we receive from others is a "real being" and so must have a place to exist in us. This is why she believes that creatures contain many images in themselves. When we hear, see, touch, smell, or taste, we give to others, and take into ourselves, images. These images are spiritual beings and they become a part of us. This exchange of vital spiritual motions is the basis of sympathy between creatures. She writes,

> All creatures, from the highest all the way to the lowest are inseparably united to one another by the subtler mediating parts which are interspersed between them and which are the emanations from one creature into another in virtue of which they can act upon each other all the way up to a great distance. This is the foundation of all the sympathy and antipathy that occurs in creatures. (P 3.10)

Creatures are all parts of one living body and so have relations of similarity and sympathy between them.[43] Within this whole, as discussed in Chapter 3, there are "subtle mediating parts," which are the emanations that are produced by creatures in order to affect others. Conway says that our bodies are "like workshops where they make these subtler spirits which then emanate in colors, sounds, odors, tastes, and the various other powers and virtues" (P 8.5). These emanations, as vital actions, are able to work at a distance to unite us with others. When we care for, or love, something,

[43] Sympathy will be discussed in greater detail in Chapter 7. For an overview of the topic, see Schliesser, *Sympathy: A History*, and as it pertains to Conway, see Mercer, "Seventeenth-Century Universal Sympathy" and "Conway's Metaphysics of Sympathy."

we exchange spirit with it, and this creates a union between us and it. She writes,

> And so even individuals belonging to one species or which have a singular affinity in one species, have a union to one another, even when they are distant in place: but this is most apparent in the human race. For if indeed two humans are markedly in love with one another, they are so greatly unified by this love that no amount of distance in place can separate or divide them. They are present to one another in spirit, so that there is a continuous outflowing or emanation of spirits that pass back and forth between them, whereby they are united and bound together as if by certain ropes. And so, whatever a human loves, whether it is a human, or animal, or Tree, or silver or gold, when he is united to it, his spirit reaches out from him into this thing. (P 7.4)

This union between humans and other beings is important for Conway, as our interactions with others have consequences for our moral standing. When we choose to love an individual, we send out our spirit to it and we receive its spirit. Conway notes that what we take into ourselves is not something that changes our moral status. This is so because we are not in control over what we perceive. Instead, it is what we send out from ourselves that is of moral import. Paraphrasing Matthew 15:17–19, she writes, "Whatever enters into a person does not defile him, but [rather it is] that which proceeds from him, for they will return again to him in the same manner as they proceed from him" (P 8.5). Here it seems that Conway is referring to the fact that we are judged by what is in our hearts, words, and acts, and that God's rewards and punishments will bring these thoughts and deeds back to us. While what we take in does not directly influence our moral status, those things that come to us from others that we accept and believe may influence our future actions.

But how do individuals produce these vital actions or emanations? According to Conway, it seems that there are two ways in which spirits are produced from bodies. The first way occurs when the body is corrupted or dissolved.

> In all hard bodies (including, stones—both common and precious—as well as metals, plants, trees, and animals, and in all human bodies) there are not only numerous spirits existing, which are as it were imprisoned in crass

> bodies and united with them—which is the reason why they cannot emanate and fly off into other bodies until death and dissolution comes to pass. (P 8.5)

When the dissolution (death) of an individual or united entity occurs, the mediating spirits disperse, which allows the separation of the more gross body from the more subtle spirits. These spirits are then able to join to other individuals. The second way bodies emanate spirts to others is through the transformation of one substance into another inside the body, which is the production of subtle spirit. Conway writes, "Thus, in the human body food and drink are first changed into chyle, and from there into blood, and after that into spirits, which are nothing other than blood that has been brought into perfection" (P 8.5). This process of transformation is a process of refinement of the spiritual substance. Through this process grosser bodies are turned into more subtle spirit that is able to escape the hard outer body of the individual.

> There are many other subtler spirits that continuously emanate from these [bodies] and that, on account of their subtlety, cannot be detained by the hardness of the bodies in which they hide. These spirits are the subtler products, or the sutures, of the crasser spirits that are detained in bodies. For even though they are detained inside, they are not idle in their prison. Rather, their bodies are for them like workshops where they make these subtler spirits which then emanate in colors, sounds, odors, tastes, and the various other powers and virtues. Hence, the crass body and the spirits contained within it are like a mother of the subtler spirits that have the role of children. For nature always works toward the greater perfection of subtlety and spirituality, as this is among all the operations and motions the most natural. Every motion wears down and divides, and thus makes a thing subtle and spiritual. (P 8.5)

The spirits that we produce, rather than those we receive from others, are the ones through which we affect others and in doing so, exemplify our moral virtues and shortcomings. Conway thinks that it is our actions that will be judged as good or evil and which will affect our ascension or descent on the ladder of being.

> And it is through the spirits produced from blood that we see, hear, smell, taste, touch and sense, as well as meditate, love, hate, and do all the things that we do. It is through them that seed is produced through which the human race is propagated. And it is in virtue of this kind that the word and human speech issues forth, which are full of spirits made and shaped in the heart, whether they be good or evil. (P 8.5)

Conway believes that we have a choice about how we act and treat others—including nonhuman individuals. This will be discussed more thoroughly in Chapter 6. Now I will consider Conway's views on perception, knowledge, and cognition.

Perception, Cognition, and Knowledge

Conway provides only brief remarks regarding her views on perception, thinking, and knowledge. Here I will provide an overview of her account. I will begin with perception. As noted, perception is a vital motion that involves the exchange of spiritual substance. When you look at a horse, the horse sends some spirit to you, and you send spirit to the horse when it looks at you. The image you receive is stored in your body, and the image of you is stored in the horse's body. The images are either sent via a proper medium, like air or water, or through the emanation of one's own spirit. This allows for interactions between individuals at great distances and helps ensure the bonds between all created beings.

Conway maintains that our thoughts and sensations are "real beings." They are not modes of mind or body, but are individual entities composed of both spirit and body. Since what is sensed externally or internally is a real being with extension and life, our organs and bodies must be able to accommodate these images. While some of these images might be pictorial, namely, those from sight, others will have shapes and forms associated with other sensory faculties (taste, touch, sound, smell). Nevertheless, they will still be three-dimensional beings. Conway notes that this requires that our organs be composed of parts in order to receive the multitude of types of information that can be gained from our external and internal senses.

> The organs of the external senses are composed of many parts, and the same holds for the organs of the internal senses, and consequently all

> [creaturely] cognition requires variation or a multitude, which is its subject or receptacle. . . . Thus, since the objects of our cognition are various and each imposes on us its own image, and this image is a real being, it follows that we have multiple images in us, and these could not all be received in an atom. Rather, they need distinct places in us, in their distinct forms and shapes. (P 7.4)

While Conway's account of how it is that we perceive external bodies is clear—they emanate sounds, smells, and so on to us—it is less clear how we perceive information from our own bodies. Conway describes our thoughts as "received or aroused" by "cognized objects or things," but she does not discuss how we come to consider the sensations in our own bodies. However, pain and suffering play an important role in Conway's theodicy, and so we should attempt to understand how she might address this issue.

In order to understand why sensation is important for Conway, it must be noted that Conway holds that pain and suffering are the result of the refinement of spirit. The more corporeal a being is, the more susceptible to pain and suffering it is. Thus, we can see that the punishment of moving down the ladder of being involves becoming more corporeal and so more susceptible to pain and suffering. In order to move up the ladder of being, an individual must suffer the pains of the refinement of spirit. Conway writes,

> For every pain or torment stirs up the life, or spirit, that is at work in the thing that is suffering, just as we see throughout experience. And reason teaches us that of necessity this must be so, since through pain and its toleration whatever grossness or crassness has been contracted by the spirit or body is attenuated and thus through pain the spirit that has been held captive in this grossness or crassness is set free and becomes more spiritual, and consequently more active and operative. (P 7.1)

Here Conway argues sensations of pain and suffering are due to the refinement of spirit. This refinement is also a physical process. "For nature always works toward the greater perfection of subtlety and spirituality, as this is among all the operations and motions the most natural. Every motion wears down and divides, and thus makes a thing subtle and spiritual" (P 8.5). The motions of the body serve to break down the more gross, dense, and hard parts in order to create a more refined substance. Even in cases where an individual will fall further down the ladder of being, this refinement of spirit

paves the way for the transition in bringing about the dissolution of the body. So, how it is that we perceive our own bodily sensations? I think that the answer is simply that individuals are special types of unities, which enable them to reflect on those images held within them. She writes,

> Every body is in its very nature something alive, or a spirit, and that it is the same principle that perceives, possesses sense and thought, love and desire, and pleasure and pain, so that it is affected in one way or another, and by consequence has activity and motion *per se*, so that it can convey itself to wherever it desires to be. (P 7.1)

Since each body has perception and sensations of pleasure and pain, we can speculate that Conway, like Cavendish, holds that there is perception between the parts of the body that enable types of feeling and thoughts throughout the body. Bodies must have a particular structure in order for this to work, of course. Conway provides an account of a structured body as follows:

> We easily understand how one body is united with another through some true correspondence that the one has in its nature with another. And so, the subtlest and most spiritual body can be united with what is now a gross and dense body by means of some intermediary bodies that participate in both subtlety and crassness, measured in terms of the various degrees that exist between these two extremes. And these intermediary bodies are surely the clasps and chains through which a soul, so subtle and spiritual, is connected with a body so crass. If these intermediary spirits disappear or cease to be, the union is disrupted. (P 7.3)

In a united body, we can assume that parts of the body are capable of both perceiving and moving other parts of the body.

> And, since the body itself is sentient life and perceiving substance, one can just as easy conceive the reason why one body can wound and cause pain in another body, and also give pleasure to it. This is because things belonging to one or a similar nature can easily touch one another. (P 8.3)

Parts of the body may put pressure on other parts of the body, and along with this local motion, a vital motion of the sensation of pain may also occur. If this is correct, then we can say that Conway holds that the mechanical

motion that wears down the parts of the body is the instrument of the body's vital motion of sensation.

> For most certainly there are far more operations in nature than merely mechanical ones, and nature is not merely an organic body, like a clock, in which there is no vital principle of motion. Rather, it is a living body, one that possesses life and perception, which is far more sublime than a mere mechanism or mechanical motion. (P 9.2)

Conway nowhere says that mechanical motions can *cause* vital motions, so we might wonder if the mechanical motion of breaking down the body could actually be the cause of the pain and suffering we experience. But she does claim that vital motions use local or mechanical motions as their instrument. Thus, the movements necessary for breaking down or building up the crassness of body may serve the motions of life.

It would be natural to assume that the central spirit is the vessel of thought, and knowledge for Conway. After all, the central spirit plays the role of soul in Conway's ontology. Conway was certainly aware of the fact that most of her philosophical predecessors maintained that either the mind is the soul or is located in the soul. However, Conway holds that thoughts are composed in part by bodies and that they reside in body.[44] She explains that the "internal productions of the mind," or thoughts, are creatures that have a "body and spirit" just like all other creatures in the world (P 6.11).

> And in the same way the internal productions of the mind are also produced, that is, thoughts which are true creatures falling under their own species, *and which have their own true and proper substance*. And they are our internal children, and are all male and female, that is, they possess body and spirit. (P 6.11; emphasis added)

Thoughts are a species of creature in the same way that humans or dogs are species of creatures. They are composed of spirit and body and have their own shapes and figures. She continues, "For, if they did not have a body, they could not be retained, nor could we reflect on our own thoughts" (P 6.11). Conway explains that "some sort of darkness" or body is required

[44] Of course, body is still merely dense spirit, but Conway's view is still going against the grain here.

for a reflection or image. We retain our own thoughts and images of our past perceptions in our body, which constitute our memories.

> Accordingly, memory requires a body to retain the spirit of the thing thought; otherwise, it would vanish, just as the image in a mirror soon vanishes when the object is removed. And thus, when we remember someone, we see his image in us, which is a spirit that had proceeded from him while we had been looking at him from afar. This image or spirit is retained in some body, which is the seed (semen) of our brain. And in this way a certain sort of spiritual generation comes to be in us. (P 6.11)

As noted, Conway argues that the production of our thoughts is similar to the production of offspring, which also requires a body and spirit. Recall that the production of offspring is determined by the strongest image that is in the female's brain, whether from her, the male, or from outside influences. In the same way, our thoughts are influenced by the images of things internal and external to us, and this is why Conway claims that the recalling of an image is a sort of "spiritual generation."

Finally, while Conway says that our cognitions are about external objects, she also maintains that we have "innate notions," which we "find" in ourselves. These innate notions are based on the "truth of the objects" that they concern.

> For every true science or certain cognition depends upon the truth of the objects, which in fact are commonly called "objective truths." Therefore, if these objective truths were changed into one another, clearly the truth of the propositions that depend upon them would also be changed. And, accordingly, no proposition could be immutably true, not even the clearest and most obvious ones (such as, "the whole is greater than its parts" or "two halves make a whole"). (P 6.2)

Conway holds that there are objective truths that are grounded in the essence of the entites under consideration. If entities did not have set essences through which they could be known, then we would have no basis for truth or certainty in our sciences. Nor would we be able to deduce truths from our notions of these entities. Conway addresses this issue when discussing her views on the convertibility of one creature into another. She argues that while it is true that because all creatures are of the same substance and essence, they

are convertible one into another, it does not follow from this that one individual can be converted into another particular individual. Peter cannot become Paul because Peter and Paul each have their own principal spirits with their own unique sequence of orderings. If the convertibility of individuals allowed for this sort of change, then there would be no sense in which Peter would be distinct from Paul, and contradictions would ensue. Moreover, God would not create such a world because justice could not be served as it would be impossible to reward and punish individuals for their own deeds.

> Now let us consider how far this mutability can or may be extended. First of all, can one individual be changed into another individual, either of the same species or of a different one? This, I say, is impossible, since then the very essences of things could be changed. But this would stir up a great confusion, not only in Creatures, but even in God's wisdom, which made all things. For example, if this man could be changed into another one, namely, Paul into Judas or Judas into Paul, then the one who sinned would not be punished for that sin, but in his place the one who is innocent and excels in virtue would. Also, it would turn out that the honest (*probus*) man would not acquire a reward for his virtue, but the one immersed in vices would in his place. But even if we supposed that an honest man were changed into another honest one, such as Peter into Paul or Paul into Peter, clearly Paul would not receive the proper reward but Peter's instead, and Peter would receive Paul's, not his own. This would be a confusion and it would not befit God's wisdom. (P 6.2)[45]

Conway's innate notions seem to be what we might refer to as "analytic" truths, or definitional truths.[46] The positing of objective truths in her argument for the limitations on the conversion of individuals is interesting. She claims that the transformation of one individual into another would create confusion in God's wisdom, which, of course, is impossible. Thus, the transformation of one individual into another is not possible. Conway frequently argues that if something is contradictory, it is impossible. This holds for God as well: "God can do anything that does not imply a contradiction" (P 3.3).

[45] I take Conway's reference to "essences" or "individual essences" in this discussion to refer to the principal spirit of the individual since this is what differentiates one individual from another. I hold fixed that Conway thinks that all creatures are of the same substance and essence as part of one living body.

[46] I understand that some contemporary philosophers might take issue with "the whole is greater than its part."

6

Liberty and Necessity

In this chapter, I examine the views of Cavendish and Conway on liberty and necessity. I begin by noting the controversy about Cavendish's views between David Cunning, who argues for a compatibilist interpretation, and Karen Detlefsen and Deborah Boyle, who argue for a libertarian interpretation. I will largely side with Cunning in this debate as I agree that Cavendish's views on causation point to a compatibilist account of liberty, and that this explains why her texts include mentions of both freedom and determinism. I argue that for Conway, God is the exemplar of a free being and he is completely determined by his goodness. As a perfect being he knows what is good and cannot fail to will it. Thus, her account of God's freedom is a version of compatibilism. Creatures, on the other hand, are not perfect and they are differentiated from God by their ability to change for better or for worse. Conway holds that this shows that the will of creatures is indifferent to good and evil. Far from thinking this libertarian freedom is a good thing, Conway holds that it is the result of our limitations with respect to knowledge and goodness.

The Controversy over Liberty in Cavendish

One topic in Cavendish that has received quite a bit of attention in the secondary literature is her views concerning liberty and necessity. Karen Detlefsen writes of Cavendish, "She has a strongly libertarian account of freedom. Rational matter can act entirely according to its own reasons without regard for rational suggestions made by other rational matter, and so a natural part can act as another part suggests, but it can also do otherwise."[1] Detlefsen's main argument in support of interpreting Cavendish as a libertarian with respect to freedom is that such freedom is necessary for occasional causation. Deborah Boyle has confirmed Detlefsen's claim that

[1] Detlefsen, "Reason and Freedom," 183–84.

The Metaphysics of Margaret Cavendish and Anne Conway. Marcy P. Lascano, Oxford University Press.
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occasional causation requires a libertarian account of freedom. I have argued in Chapter 5 that that occasional causation only requires self-motion and does not require libertarian freedom. In addition, I argued that the occasional object is necessary for the effects in the principal cause. As I noted, Cavendish holds that occasional causation requires self-motion, but since the occasional cause brings about a direction of causation in the principal cause that would not have occurred had that occasional cause been absent, we can see that the entire cause, including both the principal and the occasional object, is necessary and sufficient for the effect to occur. This means that agents are not completely free to determine their motions, and we should not accept Detlefsen's and Boyle's claims about occasional causation's requiring libertarian freedom.

However, Boyle provides additional reasons for thinking Cavendish is a libertarian. She writes that for Cavendish "nature is not law-governed," and that "Cavendish characterizes the parts of nature as being free in an indeterminist sense, but she also appeals in her writings to a Hobbesian conception of liberty as being unimpeded or lacking in external constraints."[2] Boyle maintains that Cavendish's nature only suggests norms and does not in any way determine the action of her parts. Boyle writes,

> Every part of nature has free will; when one part of nature causes an effect in another part of nature, the first part is merely providing an occasion for the second part to choose how to act. For Cavendish, this applies to humans, too. Thus events in someone's life do not necessitate a certain response from the person; only the person herself causes the response, with the events serving merely as occasions for the person to act. Not even the "nature" of an individual object or person leads inexorably to a certain kind of behavior, for a thing or person's "nature" is just the norms set up by Nature, governing what behavior is most conducive to peace, but not dictating that that behavior must absolutely occur.[3]

Boyle cites as evidence for her claim that individuals need not follow the rules or principles of nature the following passage: "All Creatures may have some Natural Rules; but, every Creature may chuse whether they will follow those Rules" (GNP 246–47).[4] However, the context of this discussion is not

[2] Boyle, "Cavendish on Gender," 518 and 526.
[3] Boyle, "Cavendish on Gender," 519.
[4] Boyle, "Cavendish on Gender," 519.

the principles or laws of nature, but rather why there are many religions and how different parts of nature might worship God. In the passage Boyle cites, Cavendish is speaking of moral or divine rules (the prescriptions of particular religions), and she is answering the question whether all creatures in nature have such rules. The passage continues as follows:

> I mean, such Rules as they are capable to follow or practice: for several kinds and sorts of Creatures, cannot possibly follow one and the same Prescription and Rule. Wherefore, Divine Prescriptions and Rules, must be, according to the sorts and kinds of Creatures; . . . But, concerning particular Worships, those must be Prescriptions and Rules; or else, they are according to every particular Creature's conception or choice. (GNP 247)

Cavendish explains that since there are a great variety of creatures in nature, with different understandings and capacities, they, for all we know, might have different rules and prescriptions regarding morality and religion.

Nevertheless, there is text that supports the libertarian reading of Cavendish. She often speaks of parts "consenting" or "choosing" to act in certain ways. However, if Cavendish's account of freedom of the will is libertarian, and all of nature has freedom to move as it pleases, she is left with the problem of explaining the large degree of uniformity in nature. Cavendish regularly appeals to the uniformity of nature's productions (natural kinds) and motions.

On the other side of the freedom debate, David Cunning writes, "Cavendish supposes that the bodies of nature tend to be free, but her understanding of freedom is wholly compatibilist."[5] Cunning argues that because causes are necessary for their effects and the "contiguous bodies of the plenum are the antecedents of the motions that come next . . . bodies cannot do otherwise than what they do."[6] This leads Cunning to posit the following definition of compatibilist freedom for Cavendish: "A body is free when it has the requisite motions to behave in accord with its goals, and surrounding bodies do not impede it."[7] While I agree with Cunning that Cavendish holds that bodies have freedom of action—that is, they are free when they are able to do what they desire—I also think there is more to say in favor of the

[5] Cunning, *Cavendish*, 212.
[6] Cunning, *Cavendish*, 212–13.
[7] Cunning, *Cavendish*, 214.

compatibilist reading and that Cavendish's views are closer to Hobbes's views on freedom. In what follows, I will argue that three aspects of Cavendish's thought point to a compatibilist account of freedom: occasional causation, her account of voluntary motions, and the types of motions in nature.

Cavendish's Compatibilism

As already noted, Cavendish's views on causation point to a compatibilist conception of freedom. We may not think that appeals to causation are the correct way to argue about determinism today due to issues about what counts as a cause. However, in the seventeenth century, being committed to causes as necessary and sufficient for their effects was the leading way to argue that the world was deterministic in nature. For instance, Hobbes writes that "an entire cause is always sufficient for the production of its effect, if the effect be at all possible" (EW 1:122). And he notes, "A necessary cause is defined to be that, which being supposed, the effect cannot but follow" (EW 1:123). From these claims he argues that determinism follows.

> For whatsoever is produced, in as much as it is produced, had an entire cause, that is, had all those things, which being supposed, it cannot be understood but that the effect follows; that is, it had a necessary cause. And in the same manner it may be shewn, that whatsoever effects are hereafter to be produced, shall have a necessary cause; so that all the effects that have been, or shall be produced, have their necessity in things antecedent. (EW 1:123)

Cavendish does not argue for determinism, although her account of causation would make Hobbes's argument available to her.[8] It is also interesting that sometimes when Cavendish talks about the movements of the parts of nature, she uses Hobbes's phrase, which she quotes from *Leviathan* above—"knowing what they do, or why and whither they move" (OEP 139, 207, 258; and OEP 1666, 308). The echoing of this language is surely intentional on Cavendish's part and belies an affinity with Hobbes's account of liberty—according to which one is at liberty if one is able to move as one desires, rather than will as one pleases. While we cannot say that Cavendish argues

[8] See Chapter 5 for the details of the account.

for determinism or a compatibilist account of freedom, her views on causation lead one to believe that she held such a view. The fact that she does not argue for determinism does not mean we should ascribe libertarian free will to her.[9] Deborah Boyle notes that Cavendish's texts seem to cut both ways with respect to free will and that freedom is not a central theme in Cavendish's writing.[10] I think this is probably good reason not to saddle her with a radical libertarian account that most of her contemporaries did not hold. But the fact that she sometimes sounds like a determinist and sometimes talks of freedom is also evidence that she held both views—that is, that she is a compatibilist.

Of course, there are differences between Cavendish's account and Hobbes's account of freedom. Cavendish's view is that every body is capable of self-motion, and so of voluntary or free actions, while Hobbes thinks that only some bodies have this ability. In his discussion of gravity, Hobbes claims that inanimate bodies cannot move themselves to a place because they "have no appetite at all," and so it is "ridiculous to think that by their own innate appetite they should preserve themselves, not understanding what preserves them" (EW 1:510). Cavendish responds to this passage in her *Philosophical Letters* by arguing that if God gave humans who are just parts of nature a "power and free will of moving himself, why should God not give it to Nature?" (PL 95). Hobbes goes on to claim that even humans "who have both appetite and understanding" cannot leap more than three or four feet above the ground to save their own lives (EW 1:510). Hobbes's point being that even beings that have the capacity to choose their own actions sometimes are still necessitated by external forces and the limitations of their physical structure. On this point, it seems that Cavendish agrees since bodies in the plenum can prevent the movement of other bodies.

It seems likely that Cavendish does not provide an explicit account of freedom because she did not take it to be an important part of *natural* philosophy. This would be a more radical line of what should be included in the study of bodies than Hobbes takes. Hobbes claims that natural philosophy excludes theology (the study of the nature of God), the study of spirits and immaterial entities, divine revelation, and issues of worship and faith (EW 1:10–11). However, Cavendish seems to think that the question of whether

[9] Cunning, *Cavendish*, 214, rightly argues that libertarian freedom does not follow from Cavendish's use of "free will" and "freedom" in her works since most compatibilists still use these terms.

[10] Boyle, *The Well-Ordered Universe*, p. 37.

we have free will or not is one that is more suited for theologians and moral philosophers. In response to Hobbes's claims about voluntary motions, she writes that Hobbes "is much for necessitation, and against free-will, which I leave to Moral Philosophers and Divines" (PL 96). Cavendish does write about moral and political issues as well as the occasional references to religion and God's nature (as does Hobbes), but her most robust discussions of moral and political issues are kept separate from her works on natural philosophy. Here we will examine briefly what she says in response to Hobbes regarding voluntary motions and freedom since her acceptance of his views on causation make it more likely that she would also hold something similar to his views on determinism and freedom.

The earliest text in which Cavendish discusses issues related to freedom is *Philosophicall Fancies*. There she describes the motions of the mind. In these passages, she attempts to illustrate her view of occasional causation by comparing the perception of an external object to a dance. She writes, "Understanding is, when they dance perfectly (as I may say) not to misse the least part of those figures that are brought through the senses. Will is to choose a dance, that is to move as they please, and not as they are persuaded by the sensitive spirits" (PF 31).[11] Here we get definitions of what it is to understand and to will. Understanding is when the perceiver correctly patterns an external object from the senses. Will, according to Cavendish, is a figurative motion of rational part of matter (PF 30). To will is to choose to move in a certain manner that is not determined by an external object of sensation. Of course, so far all this is compatible with reason acting any way it might choose.

In her later work, *Philosophical Letters*, Cavendish argues against Hobbes's notion of voluntary actions. Her main worry seems to be that Hobbes has claimed that "voluntary action is dependent upon Imagination, which he deems an appetite."[12] She writes,

> I think, by your Authors leave, it doth imply a contradiction, to call them Voluntary Motions, and yet to say they are caused and depend upon our Imagination; for if the Imagination draws them this way, or that way, how

[11] Note that in *Philosophicall Fancies*, Cavendish uses the terms "rational spirits" and "sensitive spirits" for rational animate matter and sensitive animate matter, respectively. She dropped the usage of "spirit" because she felt that it was confusing since most of her contemporaries took spirit to be immaterial.

[12] Cavendish cites *Leviathan* 2.

> can they be voluntary motions, being in a manner forced and necessitated to move according to Fancy or Imagination? (PL 45–46)

Cavendish denies that imagination is an appetite. Instead, she thinks that imagination is a function of the rational part of nature, or mind. She writes, "In my opinion Passions and Appetites are very different, Appetites being made by the motions of the sensitive Life, and Passions, as also Imagination, Memory, &c. by the motions of the rational Life, which is the cause that Appetites belong more to the actions of the Body then the Mind" (PL 46). For Cavendish, an act of reason is not voluntary if it is occasioned by the senses. In particular, Cavendish rejects Hobbes's claim that the mind moving in accordance with patterns of the sensitive matter would be a voluntary rather than necessitated action. She defines voluntary actions as follows: "By voluntary actions I understand self-actions; that is, such actions whose principle of motion is within themselves, and doth not proceed from such an exterior agent, as doth the motion of the inanimate part of nature" (OEP 19). Here Cavendish claims that voluntary actions cannot be acts of patterning as these are necessitated by external objects; rather they are the figuring self-motions of the rational and sensitive matter. In the 1666 edition of *Observations upon Experimental Philosophy*, Cavendish clarifies reasons for believing that Hobbes's voluntary actions are necessitated.

> My opinion is, that after this rate they cannot properly be called voluntary, but are rather necessitated, at least occasioned by the Mind or Fancy; for I oppose voluntary actions to those that are occasioned or forced; which voluntary actions are made by the self-moving parts by rote, and of their own accord; but occasioned actions are made by imitation, although they are all self-actions, that is, move by their own inherent self-motion.[13]

Cavendish contrasts voluntary actions, which are done by rote without an occasional cause, with those actions that are necessitated or forced, which she equates with occasioned actions. She repeats this distinction in the 1668 edition of *Observations*. There she claims that figuring is a general action of

[13] OEP 1666, unpaginated appendix. This passage is included in an appendix titled "An Explanation of Some obscure and doubtful passages occurring in the Philosophical Works, hitherto published by the Authoresse." Cavendish moved most of this material into the main text in the 1668 edition.

self-moving matter and that patterning is one type of figuring. In addition to patterning,

> There are some other interior actions both of sense and reason, which are made without the presentation of exterior objects, voluntarily, or by rote; and therefore are not actions of patterning, but voluntary actions of figuring. (OEP 170)

The voluntary figuring actions of the rational parts are "imaginations, fancies, conceptions, and passions." The voluntary figuring actions of the sensitive parts include "many generations, dissolutions, alterations, transformations, etc." (OEP 170). Cavendish claims that patterning in the sensitive or rational parts occurs when one part copies the other. In this way, if the rational copies the sensitive voluntary motions, it is patterning in the same way it would be if it were copying the sensitive perceptions of exterior objects. She writes, "The rational voluntary figures, are like exterior objects, to be patterned out by the sensitive perceptive motions; and the sensitive voluntary figures, are like exterior objects, to be patterned out by the rational perceptive motions" (OEP 171). The patterning of these voluntary motions can sometimes lead to mistakes and destruction and sometimes to acts of imagination, dreams, or generation.

As noted in Chapter 5, the lesson of these passages is that patterning in the sensitive and rational parts of exterior objects is occasioned and necessitated. But there are voluntary actions of both parts done by "rote." She writes,

> The reason why I call the voluntary actions interior, is because they have no such respect to outward objects, at least, are not occasioned by them, as perceptions are, but are the figurative actions of sense and reason, made by rote; whenas perceptions do tend to exterior objects, and are made according to the presentation of their figures, parts, or actions. (OEP 171)

I take Cavendish, like Hobbes, to equate voluntary actions with free actions. These actions or motions are such that they originate from within the agent without any necessitation from external objects. When individuals are able to perform these actions, we say they are free.

Finally, in addition to issues about causation and voluntary actions, we should also consider the extent to which the types of motions in nature determine the sorts of existents. Cavendish posits that nature's actions or motions

govern the behavior of her parts to a large extent. Without such fundamental actions, the world would be completely irregular. This is an issue that Cavendish directly addresses.

> But all diversity comes by change of motion, and motions are as sympathetically and agreeing, as antipathetical and disagreeing; and though Nature's artificial motions, which are her Playing motions, are sometimes extravagant, yet in her fundamental actions there is no extravagancy, as we may observe by her exact rules in the various generations, the distinct kinds and sorts, the several exact measures, times, proportions and motions of all her Creatures, in all which her wisdom is well exprest, and in the variety her wise pleasure. (PL 173–74)

Beginning in her early texts, Cavendish supplies lists of the general motions of nature. For instance, in the 1663 edition of PPO, she writes, "As for Infinite Motions, they may be reduced to six Principal sorts, as, Atraction, Contraction, Retention, Digestion, Dilation, and Expulsion" (8). By the time of OEP, Cavendish holds that "the chief and general actions of nature, are division and composition of parts, both which are done but by one act" (192). However, she still provides lists of other actions, including contraction, dilation, digestion, expulsion, translation, and generation. As Cavendish notes, "For all motions are not dividing or dissolving, but some are retentive, some composing, some attractive, some expulsive, some contractive, some dilative, and infinite other sorts of motions, as it is evident by the infinite variety which appears in the differing effects of nature" (OEP 238–39). While some of these motions might be particular instances of the more general motions, which certainly include division and composition as well as contraction and dilation (as was argued in Chapter 3), it is clear that Cavendish holds that there are general motions we observe in nature that are necessary for the orderliness of the structures we see in nature.[14] Consider the following passage where Cavendish notes that all corporeal motions are free, but also necessitated:

[14] "Nature being various, not only in her parts, but in her actions, it causes a variety also amongst her creatures; and hence come so many kinds, sorts and particulars of natural creatures, quite different from each other; though not in the general and universal principle of nature, which is self-moving matter, (for in this they agree all) yet in their particular interior natures, figures and proprieties" (OEP 221).

> Though every self-moving Part, or Corporeal Motion, have *free-will* to move after what manner they please; yet, by reason there can be no single Parts, several Parts unite in one Action, and so there must be united Actions: for, though every particular Part may divide from particular Parts; yet those that divide from some, are *necessitated* to join with other Parts, at the same point of time of division . . . so that Division, and Composition or Joining, is as one and the same act. (GNP 6; emphasis added)

Here it is clear that the parts of matter that are capable of free motion are also "necessitated" whenever they divide to join other parts. This is due to the fact that nature is continuous and that every dividing action is simultaneously a composing action, but it also means that no part of nature is free to be completely separated from the rest, even if it desired to be so.[15]

Nature's fundamental motions determine natural kinds and all of their abilities. If this is the case, it conflicts with the idea that all of nature is radically free. But this conflict is resolved if we understand Cavendish's account of freedom as freedom of *action* (self-motion) rather than freedom of *will*, so to speak. I think there is good evidence that this is Cavendish's view. However, Cavendish was reluctant to enter fully into these debates and so wrote very little on the subject to help us. If we accept this account of Cavendish's system, then we can see that freedom is compatible with nature having some fundamental motions and principles that determine the natural kinds and the general motions of parts. This allows Cavendish to explain the large degree of order we find in nature. In addition, this view fits nicely with Cavendish's claims that she accepts neither predestination nor absolute free will. She writes: "Wherefore I am neither for Predestination, nor for an absolute Free-will, neither in Angels, Devils, nor Man; for an absolute Free-will is not competent to any Creature" (PL 505).

Cavendish's views on causation, her account of voluntary motions, and the types of motions in nature all point to a compatibilist view of freedom. Her system is more deterministic and closer to that of Hobbes than other commentators have thought. This interpretation is more naturalistic than others on offer and eschews any teleological or normative structure in

[15] Cavendish will often say that nature as a whole is free because she is always able to move as she pleases. For example, "Although nature is free, and all her parts self-moving; yet not every part is free to move as it pleases" (OEP 244), and "As nature is full of variety of motions or actions, so are her parts; or else she could not be said self-moving, if she were bound to certain actions, and had not liberty to move as she pleases" (OEP 138–139).

Cavendish's system of nature. This I take to be more in keeping with her aims of constructing a natural philosophy that adequately accounts for the movements of the living bodies in nature.

Conway on God's and Creatures' Liberty

Unlike Cavendish, Conway addresses the issue of free will explicitly. She posits a compatibilist account of freedom for God but maintains a libertarian account of freedom for creatures. In positing a libertarian account of freedom for creatures, she is able to block any attempt at tracing a chain of causal responsibility from the creature's actions to God. This prevents God from being the "author of sin," as creatures who sin had it within their power to choose otherwise.

In discussing her views on liberty, Conway begins with God's free choice since she takes him to be the exemplar according to which we should strive.

> If the attributes of God were considered in the right way—and specifically, these two, namely, his wisdom and goodness—one could immediately and entirely refute and eliminate this "indifference of will" that the Scholastics and those who have in this respect been falsely called "philosophers" had believed to be in God and which they inappropriately called "free choice." (P 3.1)

According to Conway, "Even though [God] is a most free agent, nevertheless he is at the same time a most necessary agent" (P 3.2). She claims that God's will is necessitated by his goodness and wisdom to act in accordance with morality and justice. God is also most free in that his actions are done without external force or compulsion (that is, they are done "spontaneously"). Given Conway's account of God's freedom (that his will is determined by the greatest good), we might expect her account of human, or creaturely, freedom to be the same. But because creatures are not perfect immutable beings, their will is subject to error and sin. According to Conway, the will of created beings is directed toward the good in general, but creatures sometimes fail to choose the best.[16] Created beings have indifference of will,

[16] Leibniz held this view. God, as the moral exemplar, is completely determined in his will/actions by reason and goodness. Creatures, likewise, are determined by their understanding and goodness.

which allows them to choose a lesser good (an evil) over a greater good. Her account of creaturely indifference of will raises a number of important questions for her philosophical system. First, why would God create beings with indifference of will, which is, as Conway maintains, an "imperfection"? If God is good and always does the best for his creation, why would he create beings with the ability to knowingly or mistakenly choose what is not good? Second, how is it that beings naturally inclined to goodness are actually able to choose evil?[17]

Conway argues that once we consider the nature of God, we will see that there can be no indifference of will in his case.[18]

> On the one hand, God's will is the freest, in the sense that anything he does with respect to his creatures, he does without any external pressure, or coercion, or any cause coming from creatures. For this is being free: he does spontaneously anything that he does. Yet, on the other hand, in no way should the indifference between acting or not acting be said to be in God. This would be nothing other than an imperfection and would make God similar to corruptible creatures. (P 3.1)

God's will is free in that he is not forced or compelled by any outside entity. His will and action (one and the same for God) originate from within him without any external interference; that is, they are spontaneous. However, God is also a most necessary agent in that his actions are not done from "mere choice"—without reason and wisdom—but rather his will is always completely determined by his perfect reason, wisdom, and goodness (P 3.1).

Conway argues that indifference of will is an imperfection because it implies mutability. Freedom of indifference allows one to will or choose what is good or true, or not. Conway claims that if God were able to act without wisdom and goodness, he would be like a tyrant who acts from power or mere will alone.

However, as limited beings, creatures are often mistaken in what is good. See Leibniz, *Theodicy*, 143, 148, 236–37, for example.

[17] A third issue concerning the metaphysical and moral implications of indifference of will is discussed in Chapter 7, where Conway's theodicean project is examined.

[18] For a helpful discussion of the way the terms "indifference," "spontaneity," "voluntary," and "Liberum Arbitrium" are used in the seventeenth century, see Sleigh, Chappell, and Della Rocca's "Determinism and Human Freedom."

> On the other hand, any good person can provide an appropriate reason for what he does or will do, and this moreover because he knows and understands that true goodness and wisdom demand of him that he should do this. This is why he wills it to be done: because it is the right thing, and thus, if he were not to do it, he would be neglecting his duty. (P 3.1)

Conway equates God's freedom with "true justice or goodness," which she claims "has in itself no latitude or indifference" (P 3.2). She draws an analogy between right action and a straight (*recta*) line drawn between any two points—there can only be one. Following her analogy, we can infer that just as there is only one straight line between any two points, there is only one truly just or best action in any given situation. All other possible actions are less just or less good depending on how far they fall from the ideal. So a morally perfect agent will always perform the best and most just action. Conway tells us that "the infinite wisdom, goodness, and justice that belong to him are for him a law that in no way he can transgress" (P 3.2).[19]

As noted, it might seem surprising that Conway's account of free will is not the same for both God and created beings. However, it is clear that for Conway the way in which the will moves is determined by the nature of the being in question. God, as a perfect being, is incapable of any change, for any change in his will would result in either an improvement of his nature, which is impossible, or a lessening of his perfection, which is also impossible. Thus, since it is God's nature to be perfect, and therefore immutable, his wisdom, goodness, and will are eternal and unchanging modes of God.[20] Creatures, of course, are not perfect. It is the nature of a creature to be always in motion or changing. Conway writes,

> It is already clear that mutability applies to creature in so far as it is creature . . . since otherwise there would be no distinction between God and Creature. For if any creature were immutable in its nature and per se,

[19] Here Conway sides with the nonvoluntarists concerning the Euthyphro dilemma. The dilemma concerns whether God does x because it is good, or if x is good because God does it. The voluntarist believes that God's thoughts, beliefs, and actions are what determine the goodness of x. If God does x, then x is good. The nonvoluntarist holds that there is some objective standard of goodness that God adheres to, and if x meets this standard, then God will do x. See Plato's *Euthyphro*. For further discussion of intellectualism and voluntarism in this period, see Thomas, "Creation, Divine Freedom," 206–20.

[20] "Wisdom and Will are in God. But they are not some entity or substance that is distinct from him; they are merely distinct modes, or properties of one and the same substance" (P 1.7).

> it would be God, because immutability is one of his incommunicable attributes. (P 6.1)

The freedom of created beings to will or choose either good or evil is what facilitates this continual change. This indifference of will, according to Conway, is the basis of all mutability and corruptibility in Creatures, in that it would not be possible that there be any evil in Creatures unless there were mutability (P 3.1). So, in order to create beings distinct from himself, God must create ones that are mutable, and this mutability also allows creatures to choose either good or evil. God does the best for his creatures and gives them the power and natural desire to seek their own good. However, it is always possible for a creature to choose evil over good. Conway writes,

> It is the nature of every creature to be in a continuous motion or operation, which with the greatest of certainty tends toward a further good as it tends to the reward and fruit of its own labor, unless Creatures hamper this good through a voluntary transgression and a misuse of the indifference of will that was created along with it by God. (P 6.6)

Here we see that Conway claims that we are directed toward our own good, but that we sometimes fail to do so. For Conway, good and evil are relative terms. What is good for one type of being, a horse, for example, is to have the virtues of a horse (obedience, speed, calmness of nature, and so on). What is good for a human being is to have the virtues associated with our sort of being (piety, holiness, kindness, honesty, and so on).[21] Strictly speaking, no creature is completely evil since every creature shares in some of the attributes of God. However, creatures can choose to act in ways that are unbefitting of their natures, and this seems to be what Conway refers to when she says that they will evil. For instance, she claims that to act like a devil is to act with "hostility, malice, cruelty, fraudulence, and cunning," and to act like a beast is "to be in terms of pleasures and earthly desires beneath any other beast—nay, to become worse than every beast" (P 6.10 and 6.8). Sin, according to Conway, is "ataxia, that is, an inordinate determination of a motion or power to move from one's own obligatory place or state to another one" (P 8.2). When we will something other than loving God, we sin.

[21] While Conway does mention various virtues and seems to presuppose that some traditional Christian virtues are appropriate for human beings, she does not offer a complete moral theory in her work.

This motion is caused by willing to love that which is beneath our nature. It is clear that Conway's account implies that sin is not as egregious an offense as philosophers like Augustine or Malebranche take it to be.

While God has created us to strive for the good, we do sometimes will evil. Now the question arises as to whether when we choose evil, are we choosing it as evil or are we simply mistaken about what is good? That is, when we will evil, is this due to mere ignorance or do we know that it is wrong? Conway's language would suggest that we at least sometimes knowingly will evil. She writes that we resist good through a "voluntary transgression" and that we "abuse" our free will when we choose evil. She also claims that when creatures fail to perform the best action, they have acted from "pure will," and without "a true and solid reason" or "guidance of wisdom" and to such an extent that "they can provide no other reason for their deeds than their mere choice" (P 3.1). The earlier passages suggest that Conway holds that we knowingly and willfully resist what is good, but the latter passages suggest a sort of culpable ignorance on the creature's part that is compatible with a more intellectualist view. If Conway were to hold an intellectualist view of the will—one where the will is determined by truth and goodness, or apparent truth and goodness—then every sin would be due to ignorance or error. On such an account, when we sin, we simply mistake what is less good for what is the true good. I believe that Conway's view is intellectualist. As we will see, when creatures act, their choices are always based on the goodness of the object. However, we sin in mistakenly choosing to love what is less good rather than what is better.

Conway's account of creaturely free will bears some similarity to both Descartes's account and Henry More's account.[22] For instance, Descartes holds that although human beings are capable of indifference of will—being inclined or disinclined equally in all directions—this is "the lowest grade of freedom."[23] Likewise, Conway sees this sort of freedom as diminished. Descartes writes,

[22] Conway and Henry More studied Descartes's *Principles of Philosophy* as part of her philosophical education. In her own work, Conway makes numerous arguments against Descartes's dualism. For her arguments against Descartes, see McRobert, "Anne Conway's Vitalism," 21–35. Although Conway opposed Descartes's dualism, she compliments Descartes's physics (P 9.2) and seems to accept his general methodology (P 6.4).

[23] Of course, there is great scholarly debate over Descartes's account of human freedom. For an interpretation differing from the one here, see Reuter, "Freedom of the Will," 65–83.

> In order to be free, there is no need for me to be inclined both ways; on the contrary, the more I incline in one direction—either because I clearly understand that reasons of truth and goodness point that way, or because of a divinely produced disposition of my inmost thoughts—the freer my choice. Neither divine grace nor natural knowledge ever diminishes freedom; on the contrary, they increase and strengthen it. But the indifference I feel when there is no reason pushing me in one direction rather than another is the lowest grade of freedom; it is evidence not of any perfection of freedom, but rather of a defect in knowledge or a kind of negation. (AT 57–58 / CSM 40)

In this passage, Descartes claims that indifference of will results primarily from a created being's lack of knowledge. For if all of our knowledge were clear and distinct, our reason would always lead us to the best choice. It is a defect in creatures that they are not always led by reasons of truth and goodness.

Similarly, Henry More held that having a will that is determined by the good is a perfection rather than a defect. Speaking of those who reject every sort of determination, More writes,

> For they judge a Thing voluntarily done, to be of far different Merit from what happens by Compulsion: Which yet (I confess) sounds to me, as if God, who is Good, should be the less Adorable, because he cannot act Naught. (EE 173)

Here More argues that since God is constrained to do good, there can be nothing wrong with such constraint. More, like Conway, claims that voluntariness or spontaneity is sufficient for attributing free will to God. In addition, More claims that there is another sort of freedom, *Liberum Arbitrium*, which involves the ability to act or not act, as we please without having determining reasons for our actions, which he attributes to human agents.

> But now as to *Liberum Arbitrium*, or Freedom of the Will; what we call by that Name is only that sort of Spontaneity or Voluntariness in us; which is so free and undetermined, that it is in our Power, to Will or Act this way or the other way, as we please. This (I say) is properly Free-Will; and it supposeth a free election or Choice in our selves. (EE 178)

In many ways Conway's account of free will is very much in keeping with her contemporaries. Like Descartes, she believes that human indifference of will is an imperfection, and like More, she takes God's spontaneity to be the paradigm of freedom and the moral exemplar. However, her account differs from theirs insofar as it is the basis for dramatic changes in the moral, physical, and metaphysical nature of beings, as we will see in Chapter 7.

Problems with Freedom

Conway's account raises some interesting problems. First, why would God create beings at all if in doing so he must bring evil into the world? Second, according to Conway, it is in the nature of created beings to improve, so how is it possible that they are capable of choosing evil?

Let us begin with the first difficulty: why would God create any creatures at all if he must make them capable of evil? As noted, part of the answer to this question is that in order to create, God must make something that is different in nature from himself. She writes,

> [Since God is] unable to multiply itself, to make something that would be the same, as if to produce many gods (which would be a contradiction), it necessarily follows that it gave essence to creatures, from eternity or from all times. Otherwise this communicative goodness of God, which is his essential attribute, would be something merely finite and could be enumerated by the many durations or years belonging to it. And there is nothing more absurd than that. (P 2.4)

So if God is going to create something, it follows that what he creates will be mutable and subject to corruption. However, it seems that God might simply have chosen not to create anything at all if this were his only option. Here Conway claims God creates from the necessity of his own nature. She describes God as "an infinite fountain and Ocean of goodness, charity and generosity," and asks, "So, now, how could it be that this fountain would not be perpetually flowing and emitting from itself living waters?" (P 2.4). According to Conway, it is in the nature of God to continually communicate goodness, to do as much as he can, to be a creator. God is always active and never changes. Since he is perfectly good and cannot increase in his goodness, his goodness is communicated into creation. Conway writes, "God's

goodness by its proper nature is communicative and multiplicative. . . . he lacks nothing in himself and there could be nothing that needs to be added to him on account of his absolute plenitude and remarkable and powerful abundance" (P 2.4).

Conway's account of God's communication of goodness answers the questions "Why does God create?" and "How does God create?" Her response is that a perfectly good being must produce as much good as he can, so he communicates his goodness in every way possible. However, the claim that God makes mutable, and thus possibly evil, creatures out of the necessity of communicating his goodness might strike one as odd. Conway is aware of this tension and addresses it head on. In a passage strikingly similar to one that Leibniz will later write in his *Theodicy*, Conway claims that although God provides the ability or power for a creature to choose evil, he is in no way the author of evil.[24]

> No one, however, believes it when it has been said that due to the fact that every motion of Creatures is from God, he could be either the author or cause of sin. For even though the power to move is from God, in no sense is sin from God; it is from the Creature who has abused this power and has determined it towards something other than it ought. Thus, sin is ataxia, that is, an inordinate determination of a motion or power to move from a one's own obligatory place or state to another one. It is like this example: A boat is moved by the wind, but it is the sailor who determines that it should go to this or that place. In this case, the sailor is not the author or cause of the wind, but when the wind is blowing he merely uses it either well or badly. And when he guides the boat to its designated place, he is praised. But when he moves the boat into the shallows and causes it to shipwreck, he is blamed and is deserving of punishment. (P 8.2)

Here Conway compares the God-given power or capacity that creatures have of choice making (our power to will and move) to the wind that enables

[24] Compare the following passage from Part I, Section 30 of Leibniz's *Theodicy*:

> Let us now compare the force which the current exercises on boats, and communicates to them, with the action of God, who produces and conserves whatever is positive in creatures, and gives them perfection, being and force: let us compare, I say, the inertia of matter with the natural imperfection of creatures, and the slowness of the laden boat with the defects to be found in the qualities and the action of the creature; and we shall find that there is nothing so just as this comparison. The current is the cause of the boat's movement, but not of its retardation; God is the cause of perfection in the nature and the actions of the creature, but the limitation of the receptivity of the creature is the cause of the defects there are in its action. (141)

the helmsman's ship to move. The power is good and necessary for motion, and a good helmsman will make excellent use of it (she will choose the good). However, error or sin also can come from the misuse of this power. But just as the responsibility for running the ship ashore falls on the helmsman rather than the wind, when creatures misuse their will, they alone are responsible. God's contribution to our choice is positive and allows us to move toward greater goodness. It is the creature's abuse of this power that brings about evil.

Leibniz makes a similar analogy between the current of a river that carries boats downstream and the slow and often irregular motion of the boats. He claims that the current is swift and flows in an orderly direction; however, the various shapes and loads of the boats cause retardation of their motion. According to Leibniz, this retardation of motion is caused by a natural inertia or privation in matter. Like Conway, Leibniz claims that God is the cause of motion, but it is the natural limitation of creation that is responsible for any resulting disorderly movement.[25] Conway's and Leibniz's explanations are similar in that they both claim that God provides created beings with the power to move, and thus with the power to err and sin. Of course, for Leibniz, matter, which is naturally inert, causes the limitation and sin, but since Conway holds that there is no such thing as inert matter—all things being spiritual and alive—she claims that the limitation and privation lies in abuses of the power to will or choose in accordance with our true good.

Of course, problems remain. For although we have seen why God might create beings with the ability to choose evil or sin, it is still unclear why beings, which are created with a natural striving for the good, would choose to do so.

Given that God implanted in his creation a desire for the good, how are we capable of choosing evil? Conway has explained that creatures have the power to choose either good or evil, but we might still require an explanation as to why it is that beings endowed with a love or desire of the good should actually will or choose to do evil. Here we must investigate the causes of desire, or motivation, according to Conway.

The basis for all love or desire, according to Conway, is similarity. We desire and love that which we believe is similar to ourselves either in kind, in cause, or in thought. She writes,

[25] Even on an idealist reading of Leibniz, God's concurrence in sin amounts to God's providing all the positive aspects of the action while the creature supplies what is negative. Thus, the creature is responsible for the sinfulness of the action.

> But now the foundation of all love or desire, by which one thing is drawn toward another, consists in this: either they are both of one nature and substance, or they are similar to one another, or for both reasons, or one of them takes its existence from the other. (P 7.3)

Here Conway claims that there are three reasons why one might love or desire something.[26] The first is that we recognize that we are of the same nature and substance as another. Conway provides examples of things of the same species loving each other. Of course, once we understand the true nature of created substance (by reading Conway's philosophy), we see that all created beings are part of one and the same spiritual substance. This is the basis for love between all of God's creatures. The second reason is that we believe something to be like us in its ideas, beliefs, attitudes, and reasoning. Finally, we love and desire those who create or generate us and are likewise loved by those who are generated by us. Thus, Conway provides examples of parents and children. However, this is also the reason for love of God and Christ.

Conway acknowledges that some have thought that the basis of desire and love is goodness. And she agrees that goodness is a cause of love.

> I reply that indeed it should be conceded that goodness is a great, indeed the greatest, cause of love and that is its proper object. This goodness, however, is not distinct from previous causes that were just now discussed; rather, it is comprehended in them. For the reason why we say that a thing is good is that it we find it to be either really or apparently pleasing to us on account of the unity and likeness that it has in relation to us, or which we have in relation to it. (P 7.3)

She concludes, "Therefore, the reason why we esteem or call some thing good is that it benefits us and that we might come to participate in its goodness" (P 7.3). When we desire, love, or act, we do so because we believe that the object is good. We see this goodness as similar to ourselves and love and desire it for this reason. When a creature desires and loves something, she changes herself. Conway writes, "For that which receives something is

[26] Jacqueline Broad rightly notes that Conway seems to have a fourth basis for love or desire, which is "that one recognizes the goodness in the other." See Broad, *Women Philosophers*, 75. However, Conway seems to think that we call something good only because we recognize its similarity to us in one of the three aforementioned ways.

nourished by it, and thus becomes a part of it" (P 7.4). And again, "Whatever a human loves, whether it is a human, or animal, or Tree, or silver or gold, when he is united to it, his spirit reaches out from him into this thing" (P 7.4).

So, in order to understand how creatures choose evil over good, we must understand that we are able to see things as similar to ourselves in different respects. We must also note that since all species are of one spiritual substance, there is a real sense in which all creatures are similar to one another in their nature. Although it is in our nature to strive for the good—to become as much like God as we are capable—it is also the case that our natural bond with other creatures can cause us to love and desire what is beneath us and that which will lead us away from God. We naturally see as similar, and thus pleasing, all other beings of our species, those who seem to have similar views as our own, and those who brought us up. However, among these beings are likely some who lead less than virtuous lives, and insofar as we see those beings as similar to ourselves, we are capable of loving and desiring them. It is this will or choice of loving things beneath us instead of loving the true good, God, which is sin.

As was shown in Chapter 5, we produce subtle spirits in our own bodies, which in turn are perceived as colors, sounds, odors, and so on, and are taken in by other created beings. When we receive these sorts of images from others, they are stored in our body. These spirits literally become part of us and can influence our future desires, thoughts, and will. Conway claims that we are united to things by loving them. When we perceive other things as good, or love them, we take part of them into ourselves. However, when we will to love something more bestial or corporeal than our present state, we become more bestial and corporeal ourselves. She writes,

> Also, that if a human is united to and joined with something, he becomes one with that thing, and that he who clings to the Lord, is a spirit one with him; and if he clings to a prostitute, he will be one flesh with her. Therefore, if someone is united with the beastial, why would he not for the same reason become one with what is bestial, and that the same in all the remaining cases? (P 6.8)

The choice to love something low on the scale of being rather than God is a sin—it causes us to literally become less than we currently are. There are moral and metaphysical consequences of our indifferent will. We turn to these issues in Chapter 7.

7

Natural Philosophy and Theodicy

As mentioned in the introduction to this book, Cavendish and Conway use their metaphysical systems in service of other areas of philosophical inquiry. In Cavendish's case, her unique metaphysical system allows her to develop solutions to problems in the natural philosophy of her contemporaries. For Conway, metaphysics is in service of reconciling God's goodness and justice with the evil and suffering we experience in the world. This chapter will explore some of the applications of their metaphysics.

Cavendish and the New Science

While exploring all the ways in which Cavendish's metaphysical views are used in her arguments about natural philosophy is beyond the scope of this project, I will provide some examples of how she uses her own views to criticize the works of her contemporaries.

Cavendish had an impressive command of the new science.[1] She discusses chemistry and alchemy, medicine, optics, astronomy, and physics in her works. In doing so, she addresses the views of Thomas Hobbes, René Descartes, Pierre Gassendi, William Harvey, Joseph Glanvill, Francis Bacon, Robert Boyle, Robert Hooke, Jon Baptist van Helmont, Christian Huygens, and Henry Power. Moreover, Cavendish was not criticizing natural philosophy from the armchair; as Emma Wilkins notes, Cavendish had her own microscope, as well as access to the six her husband owned.[2] She also owned telescopes and discussed her experimentation with Prince Rupert's drops and her theory of their properties in her correspondence with Huygens.[3]

[1] For an account of Cavendish's contributions of to the history of science, see Hutton, "In Dialogue with Hobbes."

[2] Wilkins, "Cavendish and the Royal Society," 247.

[3] Broad, *Women Philosophers*, 16–19. These drops were made by dripping molten glass into cold water, which produces a tadpole-like figure. The head of the drop is so strong that hitting it with a hammer will not break it, but the tail is so fragile that bending it causes the entire droplet to disintegrate. They were a subject of great speculation in the seventeenth century.

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While Eve Keller has characterized Cavendish as an outsider whose critiques of the Royal Society were gender based, Cavendish was not an outsider in the sense that she was barred from access to the writings of the experimentalists or lacked the support and finances to pursue her interests in natural philosophy.[4] Of course Cavendish was not a member of the Royal Society, as women were not allowed to join. However, Cavendish would be the only woman in the seventeenth century (and I believe the eighteenth century) to be granted a visit to the society. There she observed Robert Hooke's and Robert Boyle's experiments. It is true, however, that very few philosophers engaged with Cavendish. While Hobbes praised her plays, she claims not to have said more than ten words to him. She also claims to have never spoken with Descartes (despite his presence in her house) and she failed to engage Henry More despite repeated solicitations. Cavendish did correspond with several natural philosophers, including Joseph Glanvill, Henry Power, and Christian Huygens.[5]

In what follows, I will discuss Cavendish's criticisms of Hobbes and Descartes, followed by her partial acceptance of the general Baconian project. Then I will address her criticisms of Robert Hooke and end with her criticisms of the institutions of natural philosophy.

In the seventeenth century the new science was introduced through the works of Bacon, Boyle, Hobbes, Descartes, Hooke, and others. The advocates of the new science promised to divulge the inner workings of nature and help humas overcome their painful fallen state by means of controlling nature. The new sciences of mechanism and corpuscularism were to be based on objective experiments that would reveal the secret inner natures of minerals, vegetables, animals, the sun, moon, and stars, as well as humans.

Cavendish was skeptical of the ambitious claims, methodology, instruments, and institutions of the new science. In her work *Observations upon Experimental Philosophy*, Cavendish argued against "experimental and dioptrical writers," provided her own account of the natural world, investigated aspects of chemistry, medicine, and the nature of heat and color, as well as many other topics in natural philosophy (OEP 10).[6] While many think Cavendish landed on the wrong side of history with respect to

[4] Keller, "Producing Petty Gods." Of course, Cavendish was limited by her lack of formal education since women were not allowed to attend university. As a result, she could not read Latin or French.

[5] See Akkerman and Corporaal, "Mad Science beyond Flattery"; Broad, "Cavendish and Joseph Glanvill" and *Women Philosophers*; and Hutton, "In Dialogue with Hobbes."

[6] While I am focusing on *Observations upon Experimental Philosophy*, Cavendish's early works also include numerous discussions of natural philosophy.

her skepticism regarding microscopes and telescopes, her criticisms of the new science were wide-ranging, and she was by no means the only one to question the value of such experiments and instruments.[7] While several commentators, like Eve Keller, have argued that Cavendish was against all things experimental, several recent commentators, Emma Wilkins and Deborah Boyle, have shown the much more complicated relationship between Cavendish and the Royal Society and medical studies, respectively.[8]

Some commentators have argued that Cavendish's criticisms of the new science are based on her belief that nature, as a representation of the feminine, was under attack by the experimentalists' desire to "penetrate" and "manipulate" nature for their own ends.[9] While it is certainly true that Cavendish and many of the experimentalists personified nature as a woman, and that Cavendish does portray men as trying to make nature into something she is not, I agree with Deborah Boyle that these descriptions are not the focus of her objections to the new science.[10] Rather than hold that Cavendish is concerned with, as Sarasohn claims, "the sexual implications for both women and nature of the new philosophy," it seems that Cavendish's objections were largely based on her philosophical commitments.[11] However, I believe there is one aspect of the new science that Cavendish does critique from a feminist perspective, and that is what she sees as its institutional nature and its exclusion of women on the basis of sex, and I will turn to this as the end of this discussion.[12]

Hobbes and Descartes

As we have already seen, Cavendish criticizes various positions in natural philosophy that Hobbes and Descartes hold. Here I will briefly address two

[7] Wilkins, "Margaret Cavendish," notes that John Locke also objected that when we are looking at the inside of bodies, we are not actually seeing the interior nature or essence of the being. In his early work with Thomas Sydenham, "Anatomica," he argues that looking at the inner parts of a man does not show the inner operations of his organs.

[8] See Keller, "Producing Petty Gods"; Wilkins, "Margaret Cavendish"; and Boyle, *The Well-Ordered Universe*.

[9] See Sarasohn, "Science Turned Upside Down" and *Natural Philosophy*; and Keller, "Producing Petty Gods."

[10] Boyle, "Cavendish's Nonfeminist Natural Philosophy."

[11] Sarasohn, "Science Turned Upside Down," 147.

[12] For an excellent discussion of earlier attempts to read Cavendish as presenting a feminist critique, see Boyle, "Cavendish's Nonfeminist Natural Philosophy."

more of these criticisms. The first is her criticisms of Hobbes's views of perception and the second her objections to Descartes's account of motion.

Hobbes held that perception involves motion from an external object pressing from one body to the next until it presses against the exterior of our sense organs. Cavendish quotes the following from *De Corpore*:

> The cause of Sense or Perception consists herein, that the first organ of sense is touched and pressed; For when the uttermost part of the organ is pressed, it no sooner yields, but the part next within it is pressed also, and in this manner the pressure or motion is propagated through all the parts of the organ to the innermost. And thus also the pressure of the uttermost part proceeds from the pressure of some more remote body, and so continually, till we come to that, from which, as from its fountain, we derive the Phantasme or Idea, that is made in us by our sense: And this, whatsoever it be, is that we commonly call the object; Sense therefore is some Internal motion in the Sentient, generated by some Internal motion of the Parts of the object, and propagated through all the media to the innermost part of the organ. (PL 59)[13]

Cavendish claims that all this pressure would eventually press "to death" the sentient and that "the eye would in time be prest into the centre of the brain" (PL 60). However, her more serious objections involve the fact that if all perceptions were caused by pressure from external objects, then we would expect that (1) all perceptions would be uniform between perceivers, and (2) a person with working sense organs "in a swoon" would still perceive. However, neither of these effects actually occurs. Moreover, Cavendish rejects Hobbes's view that it is necessary that there be a chain of printing or pressing from the object through the subtle matter of the air and into the sense organs and finally the brain. This she rejects because she thinks that we do not generally pattern the air, as it is a too subtle body for our senses to perceive. Instead, Cavendish maintains that we can and do perceive objects at a distance.

> All things, and therefore outward objects as well as sensitive organs, have both Sense and Reason, yet neither the objects nor the organs are the cause of them; for Perception is but the effect of the Sensitive and rational

[13] Cavendish is discussing issues in EW 1:390–91.

> Motions, and not the Motions of the Perception; neither doth the pressure of parts upon parts make Perception; for although Matter by the power of self-motion is as much composeable as divideable, and parts do joyn to parts, yet that doth not make perception; nay, the several parts, betwixt which the Perception is made, may be at such a distance, as not capable to press: As for example, Two men may see or hear each other at a distance, and yet there may be other bodies between them, that do not move to those perceptions, so that no pressure can be made, for all pressures are by some constraint and force. (PL 18)[14]

So here we see that Cavendish's rejection of the Hobbesian account of perception is based on her view that sense and reason are in every part of nature. She holds that self-motion is the cause of perception. Since self-moving parts do not require the impact of other objects in order to move, she argues that perception does not require contact.[15] Moreover, the fact that each natural kind has its own sort of perception, and that individuals within kinds also differ, explains why we do not all experience external objects in the same way. But the fact that the external object does contribute to our perceptions (as was shown in Chapter 5) explains why beings of the same sort will have similar perceptual experiences.

Cavendish's account of occasional causation also plays a role in her criticisms of Descartes on motion. Cavendish, like many of her contemporaries, held that Descartes thought (1) motion is a mode of a body and (2) motion is something that can be transferred to another body. She criticized Descartes's categorization of motion as a mode of body (1) as follows:

> He defines *Motion to be onely a Mode of a thing, and not the thing or body it selfe*; for, in my opinion, there can be no abstraction made of motion from body, neither really, nor in the manner of our conception, for how can I conceive that which is not, nor cannot be in nature, that is, to conceive motion without body? Wherefore Motion is but one thing with body, without any separation or abstraction soever. (PL 97)

[14] This passage is a criticism of Hobbes's same claims about perception from *Leviathan*.

[15] For an interpretation of Cavendish's views on causation that rejects action as a distance see Cunning, *Cavendish*, 58–59, and "Cavendish on Causation," 160–64.

Her claim that animate matter just is motion or corporeal motion comes to bear in her criticism. Modes, as Descartes conceives of them, she argues, are mere abstractions from some perceived part of matter. That we are able to think of the various properties of matter as separate from matter does not show that they are so. For she argues that if motion is separable from matter, it would be something noncorporeal, or "a natural nothing," since there is nothing that is not corporeal in nature.

She then turns to criticizing what she takes to be his view about the transfer of motion from one body to another.

> Neither doth it agree with my reason, that *one body can give or transferr motion into another body; and as much motion it gives or transferrs into that body, as much loses it*. . . . For how can motion, being no substance, but onely a mode, quit one body, and pass into another? (PL 97–98)

Cavendish argues that one "body can occasion another body" or can "imitate" another body's motions, but that "it can neither give nor take away what belongs to its own or another bodies substance" (PL 98). She maintains that if motion does "go out of one body into another, then substance goes too" (PL 98). As we saw in Chapter 5, Cavendish holds that motion can only be transferred to another body with matter and this sort of causation requires that one body lose matter and the other body gain matter. This sort of substance transfer cannot be the primary way that bodies move each other, as over time we would see some bodies getting smaller and others larger. This just does not happen. Cavendish does not deny that sometimes bodies make contact or force each other to change their motions. Indeed, she thinks that bodies sometimes overpower each other.[16] However, this does not involve transferring motion unless substance is transferred. Instead one body, perceiving that it cannot move as it would, changes its movements in order to accommodate or avoid the other body.

Cavendish's views about the nature of matter and occasional causation put her in a position to solve some of the perceived issues with the mechanical accounts of perception and motion. While the mechanists saw a world where things were pushed and pulled, Cavendish posits a world where things

[16] For an excellent discussion of how bodies in the plenum block and overpower each other, see Cunning, *Cavendish*, chap. 4.

perceive their surroundings and act in accordance. I will now turn to issues of methodology in science.

Bacon and Boyle

A philosopher who is often mentioned in the scholarly literature on Cavendish but who is rarely discussed is Francis Bacon. Cavendish never cites Bacon, but it is clear that the Baconian conception of the scientific enterprise is in the background of her works.[17] We know that Cavendish aims criticism of his male-dominated scientific utopia, *New Atlantis*, in her own science fiction work, *Blazing World*, which was published with *Observations upon Experimental Philosophy*.[18] Moreover, in *Observations*, Cavendish discusses many of the same examples that Bacon uses in the *New Organon*. For instance, she discusses the nature of heat and cold, and wind, although her conclusions differ from Bacon's views.

Bacon's suggested methodology in the *New Organon* is an inductive-deductive method that moves from observation to general principles and back to observation. In the *New Organon*, he begins with the production of lists or charts that are made by observation. He takes heat as his example. The first table of "instances meeting in the nature of heat" is a list of twenty-eight cases of the phenomenon of heat (NO 110–11). After this list comes another, "Closely related instances which are devoid of the nature of heat" (NO 112–19). After this, a third "table of the degrees or a comparison on heat" is provided (NO 119–26). These lists of observations are the starting point of investigation into the form, or structural nature, of a particular thing.[19] Bacon thought that by examining the lists of presence, absence, and degrees, one could rule out accidental correlations and thereby come to only those that are essential. Bacon held that the observations and experiments that excluded various instances were key to divulging the form of a particular nature. For instance, we can exclude heat as having an "elemental nature" because it is instanced in the rays of the sun. Through this inductive method (though not an enumerative one), Bacon believed that one could arrive at

[17] A notable exception is Hutton, "In Dialogue with Hobbes."

[18] O'Neill's critical edition of *Observations upon Experimental Philosophy* does not include *Blazing World*. But it is included in James, *Margaret Cavendish: Political Writings*.

[19] The title of Cavendish's work largely devoted to her discussion of experimentalism is surely a play on the Baconian method. *Observations upon Experimental Philosophy* subjects the area of inquiry itself to the method.

axioms that would hold at various levels of phenomena. These are confirmed by deductive arguments. Although there are further steps in the methodology, involving privileged instances, relational instances, and so on, the upshot is that observation and experimentation are aided by reasoning about which instances are perspicuous, which inductive generalizations hold, and what the next steps in testing should be.[20]

As far as general methodology in science is concerned, it seems unlikely that Cavendish would have objected to Bacon's account. Her own methodology in *Observations* is quite similar. She often cites phenomena that we know through sense and reason. That is, she sees herself as providing explanations of the things we experience in the world. She writes, "The best study, is rational contemplation joined with the observations of regular sense" (OEP 53). For instance, she discusses decay and death and change and generation. Cavendish also spends quite a bit of time discussing the nature of heat, cold, fire, snow, as well as the motions of plants and animals, and recounts the changing of a chrysalis into a butterfly (OEP 61–62). There is no doubt that her interest in observation comes from her reading of Bacon and his leading proponent, Robert Boyle. We know that Cavendish read Boyle and observed his experiments at the Royal Society. Emma Wilkins notes that Boyle preferred to leave the work of creating machines and running experiments to others and focused, like Bacon, on methodology.[21] Boyle, like Bacon, cautions against the hasty establishment of universal "principles and axioms" from too few experiments and observations and claims that "an absolute suspension of the exercise of Reasoning were exceeding troublesome, if not impossible."[22]

Cavendish was not critical of observation, nor was she necessarily critical of all experiments. Commenting in *Philosophical Letters* on the work of Boyle, Cavendish notes that his method concentrates, like Bacon's own method, on studying "different parts and alterations, more than the motions, which cause the alterations in those parts" (PL 496). Here Cavendish emphasizes her own view that motions are the cause of alterations and all other effects that we see in the world. She then explains, "For certainly experiments are very beneficial to man" (PL 496).

[20] For a recent study on Bacon's methodology, see Garber, "Bacon's Metaphysical Method."
[21] Wilkins, "Margaret Cavendish," 253.
[22] Boyle, *Certain Physiological Essays*, 9.

Another point of agreement between Cavendish and Bacon was the use of hypotheses and a healthy distrust of human sense. Bacon writes,

> The senses are defective in two ways: they may fail us altogether or they may deceive. First, there are many things which escape the senses even when they are healthy and quite unimpeded; either because of the rarity of the whole body or by the extremely small size of its parts, or by the distance, or by its slowness or speed, or because the object is too familiar, or for other reasons. And even when the senses do grasp an object, their apprehensions of it are not always reliable. For the evidence and information given by the senses is always based on the analogy of man not of the universe; it is a very great error to assert that the senses are the measure of things. (NO 17–18)

Like Bacon, Cavendish thinks that we are limited by our particular sensory abilities. She believes human senses are not keen enough to understand the interior natures of things (if indeed it is possible to do so at all). As Cunning shows, Cavendish is skeptical of the extent of human knowledge.[23] In her discussion of the various degrees of heat and cold, she writes,

> Some degrees and sorts of heat and cold, are subject to the human perception of sight, some to the perception of touch, some to both, and some to none of them; there being so many various sorts and degrees both of heat and cold, as they cannot be altogether subject to our grosser exterior senses . . . for although our sensitive perceptions do often commit errors and mistakes, either through their own irregularity, or some other ways; yet, next to the rational, they are the best informers we have: for, no man can naturally go beyond his rational and sensitive perception. (OEP 109–10)

Bacon claims that the senses are in need of assistance, which he claims comes not so much from instruments, as from experiments (NO 18). While his general methodology and his commitment to reason were both likely in accord with Cavendish's views, she disagreed with the stated aims of the Baconian enterprise. According to Bacon (and Boyle), the end of science is the discovery of the forms of nature, which Bacon defines as "nothing more than those laws and determinations of absolute actuality which govern and constitute any simple nature, as heat, light, weight, in every kind of matter

[23] Cunning, *Cavendish*, 28–37.

and subject that is susceptible of them" (NO 145–46). This nature must be the same in all cases where the phenomenon actually occurs and will include ways in which the nature changes and reacts with other natures. Gaining knowledge of the forms was not an end in itself, but a necessary step in coming to control and modify nature for largely practical purposes.

The pursuit of the forms of nature is one that Cavendish thought was impossible. In her lengthy discussions of the various types of heat and cold, she argues that there is no simple nature of every kind of phenomenon. There is no one cause or principle of heat; rather different corporeal figurative motions in individuals produce various kinds of heat. This is due to the fact that although Cavendish holds there are general motions in nature, particular actions are infinite and each instance is in some sense unique since no two individuals in nature are exactly alike. There is a sort of family resemblance between the things that we call "heat," but there is no one thing that is heat. While Bacon holds, like Cavendish, that the perception of heat is subjective, so that different people perceive heat in different ways, he believes that there is only one cause and one simple nature for all instances of heat. Cavendish, in contrast, holds that this subjectivity holds across all entities and so it is impossible that there be one nature of heat or one cause of heat.

> One prime action or motion cannot produce all sorts of heat or cold. For, though all sorts of heat or cold, are still heat and cold (as all sorts of animals, are still animals) yet all the several sorts or kinds of them, are not one and the same kind, but different. Nor does one particular action, produce all those several sorts or kinds. For, if there were no differences in their productions, then would not only all men be exactly like, but all beasts also; that is, there would be no difference between a horse and a cow, a cow and a lion, a snake and an oyster. (OEP 115)

Cavendish's claim is that different kinds of animals are all still animals; yet in order to get different kinds, they must be produced in different ways that causes their different interior structures. That is, cows are produced differently than sheep. The same goes for different kinds of heat such as chemical heat, the heat of fire, or the burning sensation caused by ice. Given her account of causation and perception, an understanding of heat will always involve the motions and structure of any of the bodies involved (e.g., the fire and the fuel or the ice and the flesh). From this it is easy to see why Cavendish is critical of the notion that there are forms in nature that are over and above

the resemblance class that constitutes natural kinds. As she notes, "Form cannot be created without matter, nor matter without form; for form is no thing subsisting by itself without matter" (OEP 203). So Cavendish's critique of forms involves two parts: the denial of the existence of form without matter as the nature or essence of a body, and the denial of a single cause for a particular type of phenomenon.

Moreover, Cavendish is extremely critical of philosophers who try to distill the complex workings of nature down to a few principles (or worse one principle). In a section of *Observations* titled "Whether There Be Any Prime or Principle Figure in Nature; and of the True Principles of Nature," Cavendish argues that those who try to distill the complex workings of nature down to one principle ("globular figures," salt, water, one of the four elements, etc.) make the mistake of taking one part of nature to be the principle of the whole (OEP 204–8).[24] Rather, composed bodies are merely effects of nature or self-moving matter, and as effects they cannot be the prime cause of all of nature. As has been noted, nature is the only prime cause in Cavendish's system.

Hooke

While Cavendish's discussions of Bacon and Boyle tend to the general methodological worries and aims of science, her criticisms of Hooke are more pointed. At issue here are three claims. First, Hooke claims that we, as human beings, are uniquely suited to understand nature's workings. Second, he advances the mechanist conception of nature as "artifice." And finally, he believes that the true natures or essences of bodies can be seen through the microscope.

Hooke published *Micrographia* in 1665. The book was meant to showcase the previously unseen world that is revealed by the microscope, and it features etchings of various insects and plants along with descriptions of their appearances under the lens. The preface contains Hooke's vision for science. First, he claims that mankind is above the rest of nature and has the unique ability to alter, assist, and improve nature.

[24] In this section, one of Cavendish's targets is her husband, William, Marquis of Newcastle, who held that salt was the primary principle of nature. See Cavendish's PPO for his "Ground of Natural Philosophy." This short "opinion" was added to Margaret's work to prove that William was not the author of her works.

> It is the great prerogative of Mankind above other Creatures, that we are not only able to behold the works of Nature, or barely to sustain our lives by them, but we have also the power of considering, comparing, altering, assisting, and improving them to various uses.[25]

Cavendish's response to this claim is that no part of nature is able to understand the whole of nature. Human beings, according to Cavendish, are not special in nature. She claims that many nonhuman animals have abilities that far outstrip ours. Moreover, she holds that since nature is infinite in her motions, no finite being could possibly comprehend her works.[26]

Next, Hooke makes clear that the model for understanding nature is a mechanistic one.

> We may perhaps be inabled to discern all the secret workings of Nature, almost in the same manner as we do those that are the productions of Art, and are manag'd by Wheels, and Engines, and Springs, that were devised by humane Wit.[27]

Cavendish, of course, did not think that nature motions were mechanistic, but rather vitalistic. In addition, she did not think that the workings of machines made by human art could help us understand nature. As she writes, "The rules of art cannot be the rules of nature, nor the measures of art the measures of nature . . . for though art proceeds from nature, yet nature does not proceed from art, for the cause cannot proceed from the effect" (PPO, preface). Art is an effect of nature in the sense that humans are only able to create with art what is possible according to nature, but this art does not work in the same way that nature works, according to Cavendish. The limitations of human knowledge make it impossible for us to understand infinite nature.

Her most extensive objections to Hooke involve the point of science and the claim that microscopes can show the nature or essence of beings. The latter criticisms are based on her views of perception and the nature of bodies, but the former involve Cavendish's view that nature must be practical. She

[25] Hooke, *Micrographia*, unpaginated preface.

[26] Cavendish perhaps makes this point most clearly in BW, where she describes various human-animal hybrids that have special knowledge of their own domains. For example, she has worm-men who know things about the earth and fish-men who know about the oceans in ways that humans do not.

[27] Hooke, *Micrographia*, unpaginated preface.

claims that "could experimental philosophers find out more beneficial arts than our forefathers have done," for improving farming, housing, and trade, as well as clearing up disputes in the church with their experiments, then their pursuits would be praiseworthy. However, she goes on to note, "But, as boys that play with watery bubbles or fling dust into each other's eyes, or make a hobbyhorse of snow, are worthy of reproof rather than praise, for wasting their time with useless sports" (OEP 51–52).[28]

Cavendish does not see how looking at flies under microscopes could possibly make human existence easier. Given the immediate needs of human beings, there are more profitable ways of spending one's time than playing with test tubes or trying to make snow in a laboratory. She concludes that "those that invented microscopes, and such like dioptric glasses, at first, did, in my opinion, the world more injury than benefit" (OEP 51).

With respect to the claim that microscopes reveal the nature of bodies, Cavendish claims microscopes can only reveal "phenomena or the exterior figures of objects" (OEP 51). This is in accord with her view that perception is always of the exterior parts of bodies, so what is revealed through the lens of the microscope is not the real natures of things, but merely the outer surfaces of objects. Moreover, she thinks that even these exterior figures as seen through the lens may not be accurate. Her reason for thinking so is twofold, but it is due partly to Hooke's own descriptions of the difficulty of getting the "true form" of what was under the microscope. In *Micrographia*, he tells us that the engravings in the book are composites of drawings he made of the various parts of his subjects. For it was often impossible to get a whole specimen under the lens and it was difficult to ascertain features of what he could see. With respect to the etchings, he writes,

> In making of them, I indeavoured (as far as I was able) first to discover the true appearance, and next to make a plain representation of it. This I mention the rather, because of these kind of Objects there is much more difficulty to discover the true shape, then of those visible to the naked eye, the same Object seeming quite differing, in one position to the Light, from what it really is, and may be discover'd in another. And therefore I never began to make any draught before by many examinations in several lights, and in several positions to those lights, I had discover'd the true form. For it

[28] It should be noted that Bacon and Hobbes both shared Cavendish's belief that the best sciences have practical uses.

> is exceeding difficult in some Objects to distinguish between a prominency and a depression, between a shadow and a black stain, or a reflection and a whiteness in the color.[29]

While the microscopes that Hooke used were the best in his day, they were by no means what we would consider good now. The images were dim and the lenses often quite irregular. In addition, the experimenter relied on ever-changing ambient light to illuminate his subject. This led to the belief that the process was unreliable. If an object looks different in different lighting conditions or in various positions, how does one determine what the "true form" is given that there is no independent verification for something that cannot be seen with the naked eye? Cavendish makes this point.

> Nay, artists do confess themselves, that flies, and the like, will appear of several figures or shapes, according to the several reflexions, refractions, mediums and positions of several lights; which if so, how can they tell or judge which is the truest light, position, or medium, that doth present the object naturally as it is? (OEP 51)

The same worry holds for telescopes given that they claim to reveal things that are beyond the scope of human perception. This uncertainty gave Cavendish reason to withhold her approval of microscopes, but it is interesting to note that she was not skeptical of all kinds of lenses.

> But, mistake me not; I do not say, that no glass presents the true picture of an object: but only that magnifying and multiplying, and the like optic glasses, may, and do oftentimes present falsely the picture of an exterior object; I say, the picture, because it is not the real body of the object which the glass presents, but the glass only figures or patterns out the picture presented in and by the glass, and there mistakes may easily be committed in taking copies from copies. (OEP 50–51)

Here Cavendish provides the second reason for her skepticism about microscopes—her view that every part of nature is perceptive and her account of occasional causation. According to Cavendish, when we look into a mirror, we pattern the exterior image of the glass. But it is also the case that

[29] Hooke, *Micrographia*, unpaginated preface.

the glass of the mirror is patterning us. The image we pattern of the mirror is the mirror's perception: the mirror patterns us and we pattern what the mirror patterns. Since we have no idea how a mirror patterns, we might be skeptical of the claim that a mirror patterns our external shape in an accurate manner. Of course, in the case of seeing our reflection in a mirror, independent verification is possible. Someone else can tell us that her perception, when she looks directly at us, is similar to the one she sees in the mirror. However, in the case of microscopes (and telescopes), we cannot be certain that the glass of the microscope is patterning the true image of its subject and there is no possibility of independent verification. Because we merely pattern the pattern of the microscope (copy the copy), we cannot be certain of the veridicality of our perception when using such instruments.

We can see that Cavendish had a number of criticisms of the aims, claims, and instruments of experimental philosophy. However, it is clear that Cavendish was not against all scientific inquiry and experimentation. She was both involved with the new science and a critic of it. She thinks human beings are capable of ascertaining some knowledge of nature and that some of this knowledge is capable of improving our lives.

> That the undoubted truth in Natural Philosophy, is, in my opinion, like the Philosopher's Stone in Chymistry, which has been sought for by many learned and ingenious Persons, and will be sought as long as the Art of Chymistry doth last; but although they cannot find the Philosophers Stone, yet by the help of this Art they have found out many rare things both for use and knowledg. The like in Natural Philosophy, although Natural Philosophers cannot find out the absolute truth of Nature, or Natures ground-works, or the hidden causes of natural effects; nevertheless they have found out many necessary and profitable Arts and Sciences, to benefit the life of man; for without Natural Philosophy we should have lived in dark ignorance, not knowing the motions of the Heavens, the cause of the Eclipses, the influences of the Stars, the use of Numbers, Measures, and Weights, the vertues and effects of Vegetables and Minerals, the Art of Architecture, Navigation, and the like. (PL 508)

Cavendish is clearly in favor of natural philosophy and its use in certain domains for the benefit of human life. In building better ships and houses, in aiding navigation, and in improving trade and measures, science does make life better. In this way, as Emma Wilkins notes, Cavendish was in line

with the Baconian belief that the fruit of scientific endeavor is practical application. However, it is clear that not just any manipulation of nature counts as beneficial. For Cavendish, much of the work done through the microscope either did not rise to the level of usefulness or would not bear fruit in a reasonable enough time to be undertaken given humanity's more pressing needs. Finally, although Cavendish's relation to the new science is complex, there is one aspect of it which she was clearly against, and that is its complete exclusion of women.

The Institutions of Natural Philosophy

As we have seen, Cavendish's arguments against the accounts, methods, aims, and instruments of the new science are based on her views of the nature of bodies, human understanding, and causation and perception. In addition to these criticisms, Cavendish also confronted the institutional barriers that prevented women from participating in natural philosophy. In this section, I situate Cavendish's criticisms in terms of a feminist critique.

Following recent work by Tjitske Akkerman, Siep Stuurman, and Eileen O'Neill, we can trace three core components of feminism back to (at least) the seventeenth century.[30] They are (1) criticism of misogyny and male supremacy, (2) the conviction that women's condition is not an immutable fact of nature and can be changed for the better, and (3) a sense of gender group identity, the conscious will to "speak on behalf of women" or "defend the female sex," usually aiming to enlarge the sphere of action open to women. While Deborah Boyle has argued convincingly that Cavendish's natural philosophy was not feminist, nor is Cavendish accurately described as an advocate of women with respect to marriage or certain social reforms, I do think her critique of the exclusion of women from natural philosophy exemplifies all three of the core components of feminism.[31] Cavendish recognizes the fact that she, as a member of the female sex, no matter how capable and knowledgeable, is not allowed to participate fully in the new science. Cavendish

[30] These core components of feminism are from Akkerman and Stuurman, "Introduction," 3–4. Eileen O'Neill relies on Akkerman and Stuurman's account in her introduction to *Feminist History of Philosophy*.

[31] See Boyle, "Cavendish's Nonfeminist Natural Philosophy" and *The Well-Ordered Universe*, 166–88.

points to misogyny and the barring of women from universities as key factors in this exclusion.

It should be noted that Cavendish's metaphysical views are relevant here. While social conventions, which Cavendish advocated obeying, held that men were more capable than women in science, philosophy, and politics, her own metaphysical views of the nature of individuals does not support such distinctions. Human beings, whether male or female, share the same figurative motions. While men may be physically stronger, there is nothing in Cavendish's metaphysical system that points to a difference in their sensitive and rational powers.

There are several places in *Observations* where Cavendish remarks that women are not allowed to participate in natural philosophy. The first of these occurs in the "To the Reader."

> But that I am not versed in learning, nobody, I hope, will blame me for it, since it is sufficiently known, that our sex being not suffered to be instructed in schools and universities, cannot be bred up to it. I will not say, but many of our sex may have as much wit, and be capable of learning as well as men; but since they want instructions, it is not possible they should attain to it: for learning is artificial, but wit is natural. (OEP 11)[32]

Here Cavendish clearly claims that women are not innately inferior to men—they are equal in wit and are capable of learning. The reason for the difference in their actual abilities is due to education. No amount of natural ability can make up for the fact that women were not educated in the same way as men. In this passage, she clearly is expressing the second core component of feminism.

Another criticism comes in a passage discussing her study of ancient philosophers. She notes that after reading the ancients, she found so much difference between their views and her own that she thought she might like to start her own school of philosophy.

> Were it allowable or usual for our sex, I might set up a sect or school for myself, without any prejudice to them [the ancient philosophers]: But I, being a woman, do fear they would soon cast me out of their schools; for, though

[32] While I believe that it is true that Cavendish thinks more of wit than learning, her point here is that women, being barred from instruction, can only try to teach themselves, which puts them at a disadvantage.

> the muses, graces and sciences are all of the female gender, yet they were more esteemed in former ages, than they are now; nay, could it be done handsomely, they would now turn them all from females into males: So great is grown the self-conceit of the masculine, and the disregard of the female sex. (OEP 249)

Here Cavendish clearly states that men have very little regard for women, even women who are capable of doing the things that they find valuable, like philosophy. This explicit recognition of the fact that she would not be allowed to teach philosophy or even associate with a school of philosophers is quite telling. The feminine might be used as a muse, grace, or representation of science, but she is not allowed to participate. This is clearly a lamentation of male misogyny, which is the first core component of feminism.

Cavendish, as noted, often depicts nature as female. But in *Observations*, nature is a housewife engaging in the same kinds of methods used in experimental science. She writes, "Nature being a wise and provident lady, governs her parts very wisely, methodically, and orderly" as a "good housewife does in brewing, baking, churning, spinning, sowing, etc. as also in preserving, for those that love sweetmeats; and in distilling, for those that take delight in cordials" (OEP 105).

Not only does Cavendish describe nature as a housewife, she goes on in this passage to make the connection between women's experimentation with recipes and alchemy/chemistry. She suggests rather coyly that women

> would prove good experimental philosophers, and inform the world how to make artificial snow, by their creams, or possets beaten into froth: and ice, by their clear, candied, or crusted quiddities, or conserves of fruits: and frost, by their candied herbs and flowers: and hail, by their small comfits made of water and sugar, with whites of eggs: And many other the like figures, which resemble beasts, birds, vegetables, minerals, etc. (OEP 105–6)

Cavendish notes the ways in which women have already succeeded in imitating nature in their kitchens. She suggests that women could help men by actually doing the experiments and then the men could "study the causes" of them. She writes, "I am confident, women would labour as much with fire and furnace, as men; for they'll make good cordials and spirits" (OEP 106).

Cavendish acknowledges the fact that all women have been distilling and brewing medicines for generations. Here (and in the other passages) she

speaks for all women (component 3) who have quietly been engaged in medicine, chemistry, and experimentation throughout history. These practical sciences were handed down through generations of women and recorded for future use in households. In the seventeenth century, Cavendish was witness to the fact that the art of taking care of the sick would be given over to men who studied chemistry and medicine in schools where women were not allowed. There is no doubt that this exclusion was all the more insulting given that these arts (chemistry, alchemy, and medicine) had been practiced by women for years without credit. In forwarding these criticisms, Cavendish speaks on behalf of all women against the misogyny that prevents women from developing their intellects and participating in philosophy. In doing so, it is safe to say that Cavendish put forth a feminist critique of the institutions of natural philosophy in addition to her other criticisms of the new science.

I have provided evidence of Margaret Cavendish's extensive knowledge of seventeenth-century natural philosophy and the way in which her metaphysics underpinned her views. She was conversant not only in metaphysics, but also in physics, astronomy, medicine, optics, and what we now call botany and biology. But to a large extent her work was unacknowledged by her peers. The fact is that few bothered to engage with her because of her sex, and she acknowledged this injustice in her criticisms of the institutions of science.

Goodness and Perfection

As has been noted, Conway's metaphysics is in service of showing that God's goodness and justice are consistent with the world that we experience. In the remainder of this chapter, we will examine Conway's views on the nature of goodness and perfection, God's justice as manifested in rewards and punishment, and salvation and the afterlife.

In a recent article, Sarah Hutton has argued that Conway's account of goodness is "a central component of her philosophical system" and that her account of goodness is "primarily metaphysical rather than moral."[33] While I largely agree with Hutton's discussion, I do think that Conway's conception of goodness is both metaphysical and moral, although the morality is not drawn merely from scripture. Instead, it seems that Conway holds that the

[33] Hutton, "Goodness in Conway's Metaphysics," 229–30.

moral and the metaphysical are inseparable aspects of God and creation, and that the duty of every being is to be as perfect as possible.

Part of Hutton's argument for the claim that Conway's conception of goodness is not moral is that Conway does not provide an account of "the kind of behaviour that constitutes sin, and which incurs punishments."[34] Hutton acknowledges that Conway talks about "brutish" behavior, "sin," and transgressions of our freedom, but maintains that "there is an insufficient number of examples given of sin from which to infer a moral code or guide a life."[35] It is true that Conway does not provide a moral code, but as I have already noted, she does seem to think that sin is acting in a way that is unbefitting of the kind of creature that one is. "[Sin] is from the Creature who has abused this power and has determined it towards something other than it ought" (P 8.2). What is it that creatures ought to do? They ought to perfect themselves. She writes,

> God's wisdom sees that in fact it is more fitting that all things proceed along their natural path and order, and that in this manner the fertility that he placed inside each single being may become apparent and *creatures may have the space to work for themselves towards attaining an ever greater perfection*, as instruments of the divine wisdom, goodness, and power that is at work in them and with them. For in this a creature is filled with a greater joy, when it comes to possess what it has as the fruit of its own labour. (P 9.6; emphasis added)

This, admittedly, is not a complete moral theory, but it certainly is some guidance in how we ought to live—we ought to behave in a manner consistent with the perfection of the nature that we currently enjoy. This is achieved by increasing one's goodness, wisdom, and power as far as possible in accordance with one's present state. Indeed, this view is supported by Conway's discussion of the virtues of a horse.

> First, let us take as an example a horse, which is a creature bestowed by the creator with diverse levels of perfection, not only ones like bodily strength, but also, as I would put it, a certain notion of how it ought to serve its Master. In addition, it has courage, fear, love, memory, and various other

[34] Hutton, "Goodness in Conway's Metaphysics," 232.
[35] Hutton, "Goodness in Conway's Metaphysics," 232.

> qualities that are in humans and that are of the sort that we can also observe in a dog as well as many other animals. (P 6.6)

Here Conway notes some of the perfections of a horse. Horses, and the rest of God's creatures, have their own virtues and powers (as degraded versions of God's perfections emanated into creatures) that can be either increased or decreased through desire, knowledge, and work. These perfections, as Hutton notes, are "physical, moral, and emotional qualities."[36] Each sort of creature will vary with respect to the qualities that may be perfected, but as one moves up the ladder, the qualities will be increasingly intellectual and moral. In achieving the perfections of one sort of being, an individual will rise up to a level where more perfections are available ad infinitum.

Punishments and Rewards

I argued in Chapter 6 that Conway saw our misuse of free will as the cause of sin, or ataxia, which is "an inordinate determination of a motion or power to move from a one's own obligatory place or state to another one" (P 8.2). This, I claim, is the result of acting in ways that are beneath our current status on the scale of perfection.[37] For humans and angels, for instance, this might be to act in a brutish manner rather than directing our love toward God (or Christ). This sin is punished by a subsequent move down the ladder of perfection in one's next incarnation.

Conway holds that God is "the highest good," and that he always does the best for his creation since "the infinite wisdom, goodness, and justice that belong to him are for him a law that in no way he can transgress" (P 3.2). But if this is so, then why do we suffer? We all share in God's goodness and justice, and yet the world contains evil and sin. This is the one version of the problem of evil, and one to which Conway provides a solution. When a being strives to increase its perfections, it is rewarded, and when it decreases in perfections through acting in a way that is beneath it, it is punished. Conway believes that this system of reward and punishment is built into the nature of creatures:

[36] Hutton, "Goodness in Conway's Metaphysics," 243.

[37] I use the term "ladder of perfection" in this chapter. Conway expressly denies that mere being is good, nor does she think being or reality come in degrees. Her scale is a ladder of perfection, as I hope to make clear in what follows.

> This same justice provided for all creatures a law and inscribed it into their very natures. And whenever any creature transgresses this law, it is punished accordingly; whereas there is a reward for those who observe it, so that they may become better. (P 6.7)

In answer to the worry that becoming a lower being might be beneath the dignity of higher creatures, such as humans or angels, she writes,

> What here could be objected to God's justice? Suppose someone says that the dignity and nobility of human nature is too diminished and dishonored, when it is stated that both soul and body are convertible into a brute's nature. To this one replies, in accord with a common maxim, that the corruption of the best is the worst. For suppose by his own voluntary transgression a man becomes altogether depraved and has led his own nature, which had been so noble, into a worse state, and that with the same he could inwardly and in spirit degrade into the filthiest brute or animal, so as to be in terms of pleasures and earthly desires beneath any other beast—nay, to become worse that every beast! Would it be an injustice, if God should also compel him to outwardly take on in his body the image of the spirit into which he had inwardly transformed himself? Which do you think is the worse degeneration, to bear the image of a beast in spirit or in body? With the greatest certainty it must be said that being similar in spirit to a brute is by far the greatest degeneration, and there is hardly anyone who possesses true nobility of soul who would not confess that being inwardly similar to a brute is much worse than being outwardly similar to it. For being one with it with respect to spirit is by far worse than being one with it in external form and bodily figure. (P 6.8)

To have the body of a nonhuman animal is less bad than to have the spirit of such an animal. This indicates that although strength, for instance, might be a good-making quality of a horse or a man, it is better to perfect one's moral and intellectual nature than one's physical nature. This might also be indicated by the fact that humans are not as physically strong as many animals, and yet are higher on the ladder of perfection. The higher perfections of which humans and angels are capable of are the moral and intellectual virtues. Moreover, this passage shows us that being overly concerned with earthly desires and pleasures to the neglect of the improvement of one's nature warrants punishment.

Part of Conway's theodicean project is to show that God's punishments are not as severe as some traditions have held. Conway thinks that in the case of these transmutations, God has chosen punishments that perfectly match their offenses.

> Now we see how God's Justice so gloriously shines forth in this transmutation of things from one species into another. For it is most certain that there is a kind of justice that works not only in humans and Angels, but also in all creatures. Anyone who does not observe this should be said to be altogether blind. This justice appears both in the ascent and in the descent of creatures, that is, both when they are changed into something better and when they are changed into something worse. When they change into something better, this justice doles out the rewards and fruits of their good deeds. When they become worse, this same justice punishes them with the penalties that are appropriate to the nature and level of the transgression. (P 6.7)

Her views on the nature of punishment partly explain the appearance of injustice in the world. For Conway claims that we do not realize when we sin that we will be punished appropriately, and that this punishment is only meted out after the dissolution of the body. Thus, her view is consistent with the fact that evil persons do not seem to be fitly punished in this life, nor do the good seem to be fitly rewarded.

> This punishment or castigation, although it is not immediately perceived by the creature when it sins, is nevertheless assigned to the sins that the creature commits, and it will surely become apparent in its own time. And thus every sin will have its proper punishment, and the Creature will eventually sense this pain and castigation. (P 7.1)

Conway thinks that God's goodness and justice (terms she often uses interchangeably) require that all punishments are in proportion to the sin, are temporary, and are medicinal or restorative.

> However, just as all the punishments that are inflicted upon creatures by God have a certain proportionality with respect to their sins, all of them—even the worst of them—aim toward the good and restoration of these [creatures], and thus they are medicinal, as they cure diseased creatures

> and restore them to a better condition than what they possessed previously. (P 6.10)

Not only does she argue that eternal punishment and hell are inconsistent with the nature of an all-good and loving God, but she also argues that having such a harsh view of God's punishment causes people to erroneously see God as a tyrant rather than as a just and merciful being.

> There is this common notion about God's justice: each and every single sin, no matter how insignificant, will be punished with hellfire, and that this will be without end. This produces in humans a horrible idea of God, one where he is more of a cruel Tyrant than a benign father toward all his creatures. If, however, a lovable image of God were better known to humans, . . . then only now and not before would humans love God above all and acknowledge that he most of all is lovable and just, merciful and above all worthy of adoration, and that he could not inflict equal punishments upon all sinners. (P 6.9)

The removal of eternal hellfire as the punishment of all sin goes a long way with respect to her theodicean project.[38] For this means that no creature is completely lost to sin. Conway does accept a version of original sin. She refers to the Fall in several places, and notes that "after their transgression against God, not only the woman and her husband received a sentence and penalty, but the serpent as well" (P 6.7). This original sin marks the dispersion of creation into the various kinds we see now. So all creatures are currently fallen, but none are lost. God gives all creatures the power to choose good or evil. We sometimes choose incorrectly, but the punishment for this error is not eternal. Every creature will eventually be brought back to the state of perfection greater than that in which they were originally created.

[38] God seems to reserve hellfire for devils alone: "For this reason, God's justice wondrously shines forth when he assigns to each species and degree of transgressions its due and proper punishment. Nor does he determine that hellfire and the devil's punishment are what is due for each sin and transgression" (P 6.8). But also consider:

> God and Christ assist any pious [human] in this struggle, so that he might prevail over evil spirits, but [God] allows those who are evil and unfaithful to be captured and conquered by them. For God assists no one unless they fear and love him, obey him, and believe in his power, goodness and truth. And when he is united with them, the good spirits of this kind of human are like so many arrows and swords by which these dark and impure spirits are wounded and repelled. (P 8.3)

> And henceforth one can infer that all of God's creatures, which before had fallen and degenerated from their first goodness, will after certain periods be converted and restored to a state that is not merely as good as the previous one in which they were created, but to a better one. (P 7.1)[39]

Restoration and Eternal Salvation

Since Conway believes that all creatures will be restored to a state of goodness, we need to explore how creatures return to goodness after sin. In this Conway's notion that sin increases embodiment is important. For the more corporeal one is, the more one is susceptible to pain and suffering. Conway holds that it is through pain and suffering that we turn toward the good. The motions that refine body are the cause of this pain and suffering, but it is through these motions that our principal spirit is released and we are changed.

> For every pain or torment stirs up the life, or spirit, that is at work in the thing that is suffering, just as we see throughout experience. And reason teaches us that of necessity this must be so, since through pain and its toleration whatever grossness or crassness has been contracted by the spirit or body is attenuated and thus through pain the spirit that has been held captive in this grossness or crassness is set free and becomes more spiritual, and consequently more active and operative. (P 7.1)

The refinement of spirit makes a creature less embodied and provides a means for moving up the ladder. Thus, although there is sin and pain in the world, and the pain is punishment for sin (for surely God could have made the motions painless), the motions that cause the pain are restorative. Conway holds that there are two kinds of hardness in bodies that will need to be refined. There is the literal hardness of visible embodiment and there is a hardness that is not perceptible to the senses, but which is a real hardening of the interior, spiritual being.

[39] Conway, like the Cambridge Platonists, was very interested in the works of Origen, a defender of universal salvation. Conway was the patron of George Rust, who wrote *A Letter of Resolution concerning Origen* defending Origen's views. For more on the influence of Origen on Conway, see Hutton, *Anne Conway*, 60 and 69–71.

> So, we ought to consider two kinds of grossness and hardness that pertain to bodies: one is visible and palpable to our external senses. The other is invisible and impalpable, even though it is in fact as gross as the first kind. Indeed, it is often grosser and harder, which is something inward that may really be perceived by, as it were, a more interior sense, even though the external senses cannot grasp it. This invisible and impalpable grossness and hardness, then, is that which is proper to those bodies that are so tiny that our external senses are not able to perceive them. (P 7.1)

Conway notes that this interior hardening—the hardening of the heart or spirit of a person—is just as bad, if not worse, as an external hardening. This is the sort of hardening that occurs in angels when they fall, and which seems difficult to detect. But Conway thinks that we can sense this sort of "deadness to sin" in individuals, and that in particular good people "sensibly grasp it as much as they can sense with external touch the exterior hardness of crass external bodies" (P 7.1).

We have already seen that Conway rejects eternal suffering, but why does she think that a creature cannot proceed infinitely toward evil? An infinitely evil being would have nothing in common with God, which is impossible since God emanates his perfections to all created beings. God is the exemplar of infinite goodness. Creatures may proceed infinitely toward goodness, but they are on a different scale of perfection than God (and a different scale from Christ). But Conway thinks that even though creatures are on a different scale, that scale must have a lower limit; otherwise, it could not be said that the creatures share in God's perfections.

> And thus, it is manifest that no creature can become more and more a body to infinity, even though it can become more and more a spirit to infinity, and nothing can become more and more dark to infinity, even though it can become more and more luminous to infinity. For the same reason nothing can be infinitely evil, even though it can become more and more good to infinity, and so, in the very nature of things there are indeed limits to evil, but none to good. (P 7.1)

Nor can creatures just stay at the bottom of the ladder because it is in the nature of creatures to always be moving and changing.

> Therefore, since a Creature can never proceed infinitely toward evil, and it cannot remain inactive and silent, and it also cannot fall into an eternal state of suffering, it irrefutably follows that it must return to the good and that the greater its sufferings the sooner it will be reverted and restored. (P 7.1)

Thus, it seems that a creature who has hit the bottom must begin to climb back up. But what makes it change for the better? Does every downward descent require falling to the bottom of the ladder? Conway thinks that the process of universal salvation is an infinite one, but does this mean that every transgression causes a plummet to the bottom of the ladder? If not, then what precipitates the turn toward goodness? I believe that in order to answer these questions, we must say more about the nature of goodness.

As Sarah Hutton has noted, goodness is both communicative and multiplicative.[40] That is, as we have seen, God communicates his goodness to creatures in his act of creating, and in creating he multiplies his goodness.[41] But there is another traditional and important aspect of goodness that is also at work in Conway's system—goodness is also *attractive*. Conway notes the attractive nature of goodness in her discussion of love. Here she claims goodness is "the most vehement magnet of love."

> But suppose one decides that at this point there is another cause of love, the principal one, namely, goodness, which is the most vehement magnet of love, and hence God more than anything else ought to be loved by all, since he is the highest good. (P 7.3)

According to Conway, goodness is "a great, indeed the greatest, cause of love and is its proper object" (P 7.3). It is through the emanation of God's goodness that all things bear some similarity to each other as well as to God and Christ. But it is the attractive aspect of goodness that pulls things back toward God and prevents us from having to fall to the bottom before ascending back up the ladder. "Moreover, if something progresses to a greater degree of Goodness, this is always due to some greater being in whose virtue and

[40] Hutton, "Goodness in Conway's Metaphysics," 233–36. Hutton also says that goodness is participatory.

[41] It should be noted that some philosophers, like Bonaventure, held that God first multiplies his goodness by emanating the two other persons of the trinity and then by emanating creation. See Kretzman, "Particular Problem of Creation."

influence the former participates" (P 5.3). God's goodness flows to creatures, is multiplied, and returns to him.

> And so, in return, creatures that are not altogether degenerate and devoid of all sense of God, love him. This is a certain divine law and instinct, which he embedded in all rational creatures so that they might in fact love him, which is the fulfilment of the whole law. Whereas those creatures who progress as close as possible to God in likeness, love him more and they are loved by him even more. (P 7.3)

God has inscribed in rational creatures a "law and instinct" to love the good, and this love of goodness pulls them to the highest good—God.

While each creature does eventually achieve union with God, we might still wonder why we must endure such a torturous route to salvation. As Conway notes the "various transmutations succeeding one after the other, which in accord with the natural order of things require long periods of time for their completion" (P 9.6). Each creature has a unique path to salvation, and this path is reflected in the various transmutations that occur in the principal spirit. While Conway says that God could bring us all back to perfection in a single moment, "A creature is filled with a greater joy, when it comes to possess what it has as the fruit of its own labour" (P 9.6). Thus, each of us has a greater joy in our salvation when we are able to appreciate the pains that it took to achieve. Sin is easy. Redemption is hard.

This redemption is union with God. Conway sees the parallel between her objections to dualism and claiming that things that are of different types of substance (God and creatures) could be in actual union. She heads off the worry by claiming that Christ acts as a medium between the two seemingly disparate substances.

> But suppose it is asked how a human soul could be united with God, even if it were in a state of the highest purity, since God is a mere spirit whereas, even in its highest state of purity, a soul always participates in corporeality. I respond that this comes to be through Jesus Christ, who is the true and proper medium between them. (P 8.3)

Just as the principal spirit and the body of a creature are connected by the ministering spirits, Christ allows for the union of creature and God. This

is possible because Christ shares in our nature and in God's nature, so our union with God is achieved through Christ. What will this union look like?

> [The creature] will be brought back to its first state and be liberated from this confusion and emptiness to which it has been subjected on account of sin. (P 7.0)

> Those who enter into a perfect union with Christ are raised up into a region of perfect tranquility where nothing moving or disturbing is seen or sensed. For although the strongest and swiftest motions exist there, because they move uniformly, equally, and harmoniously without any contrariety or conturbation, they nevertheless will appear to be entirely at rest. (P 5.7)

> The Creature will once again be converted into its original state of goodness, the one into which it was created, and from which it cannot fall again, since it is through its great castigation that it acquires a greater perfection and strength, and accordingly it ascends so far up from this indifference of the will, which formerly it had toward good or evil, that it only wills the good and it is no longer capable of willing anything evil. (P 7.1)

Salvation for Conway is a state of perfect tranquillity without the confusion and emptiness that one feels without God. It also a state where a creature becomes so good that it can no longer will evil, thus becoming more like God, whose will is determined by his goodness and wisdom.[42]

Conway's theodicy is derived from her metaphysical views about the nature of God and creatures. From the nature of God, she discerns that eternal punishment for finite offenses is unjust. From the nature of creatures as a single substance, she concludes that they are essentially mutable. This mutability is both moral—the ability to choose good or evil—and metaphysical—the ability to transform into another natural kind. These two aspects of creatures are inseparable. The first determines our rewards and punishments and the second is the realization of justice in transformation. Conway's system shows how God can be just in his punishments, explains why we perceive injustice in the world, and shows that every creature is saved through its own efforts and perfection.

[42] I take it that creatures still have the capacity to sin, as they cannot lose their essential nature, which is to be mutable toward good or evil. So it is just that they in fact no longer will evil.

8
Conclusion

Cavendish and Conway share a number of metaphysical commitments. However, as we have seen, the details of their systems diverge in a number of important and interesting ways. So, while it is true that Cavendish and Conway can be seen as presenting a similar challenge to their philosophical contemporaries, their metaphysical systems provide compelling and original features worth considerable attention in their own right. To a large extent the diversions in their systems are due to the fact that they have different aims for theirs works. Cavendish wants to present a theory of the workings of the natural world that explains the phenomena in ways that she believes mechanistic systems cannot. Although she disagrees with many of her mechanistic peers about the ultimate nature of the world, she agrees with them in holding that explanations in natural philosophy should not appeal to unknown divine or spiritual causes. Thus, her system of nature, although it makes room for the otherworldly existence of God, does not appeal to supernatural beings to account for our everyday experience of the world.

In contrast, Conway holds that the world would be incomprehensible without the knowledge of God who is the creator of all things. It is by understanding God's nature that we come to understand the workings of nature, justice, and our place in the world. Thus, Conway's system intertwines theology and natural philosophy. She sees them as inseparable facets of a world where the limitations of finite beings cause change, pain, and suffering, but whose eventual redemption through their moral, psychological, and physical perfection is inevitable.

This, of course, is a broad statement about why I believe their systems diverge. The details provided in the chapters of this book provide the evidence and the precise ways in which they differ.

There is no doubt that Cavendish and Conway hold unique and philosophically sophisticated accounts of the world. In understanding their views, we certainly expand our understanding of seventeenth-century philosophy. But it is also true that both philosophers are also very much of their time. They are responding to important philosophical debates and controversies

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that were discussed by their contemporaries. In this way, they are part of a larger philosophical story. One of the many benefits of reading Cavendish and Conway is that doing so forces us to consider neglected women and underappreciated views—but they also force us to consider other neglected figures and topics in the history of philosophy.

When we recover works that have been neglected or forgotten, we often see new influences, connections, arguments, topics, and debates that change our perspective in unexpected ways. We see the narrow ways in which we perceive the philosophical debates of the past and recognize our own prejudice in thinking that neglected philosophers have been so neglected for good reasons. When we realize the influence of figures like Cavendish and Conway, or Henry More and Walter Charleton, we not only have a more complete understanding of a historical period, but also open up new avenues of research and new ways of thinking about existing scholarship.[1] In addition, reading figures like Cavendish and Conway makes us re-evaluate familiar figures like Thomas Hobbes. While most historians of philosophy are familiar with *Leviathan*, only a few study his works in natural philosophy like *De Corpore*.

The process of recovering and understanding the rich works of the seventeenth century is ongoing and expanding. There is still much to discover, and I am hopeful that the recovery process will unveil many more neglected voices.

With respect to Cavendish and Conway there is also much more to be done. For instance, while we have information about Cavendish's library, there is still much work left in understanding her various influences and the many ways in which her plays and poetry might relate to her philosophical works. Conway's library was lost, and until very recently all we knew about her reading was gleaned from her correspondence and the *Principles*. However, Michael Edwards has recently discovered four books at Jesus College library at Cambridge that bear Conway's signature.[2] In addition, I have found a translation of Jose Acosta's *Naturall and Morall History of the East and West Indies* at the Spencer Library at the University of Kansas that bears Conway's signature.[3] While these texts are not annotated, they do have marginal markings of certain passages that we believe indicate Conway's

[1] See Maksymilian M. Sipowitz's dissertation, "The Passions and Morality in the 17th Century," for influence of Henry More on views about ethics and the passions as well as the connections between Charleton and Cavendish. See also Broad, "Cavendish and Charleton on Intimate Presence."

[2] Edwards, "Lost Library." Edwards notes that two additional volumes also may have been owned by Conway, but do not have her signature on the front pages.

[3] Edwards and Lascano, unpublished manuscript.

interest in certain topics. Having an understanding of Conway's reading will provide insight into her influences and writings. This may open up new ways of reading Conway in light of her sources. Many have noted Conway's interest in natural philosophy, and the books that have so far been discovered bear out these claims. It is likely that there are many other volumes that Conway owned scattered around the world just waiting to be discovered.

Just twenty years ago it was difficult to publish work on women philosophers of the past. Their worth was doubted. The idea that any philosopher who had original ideas or philosophical insight would be "neglected" was dismissed. Philosophers, after all, pride themselves on being open to reason and objective facts. However, we know now that many philosophers were lost or overlooked because of our prejudices. Through hard work and tenacity, these myths about the worth of the standard philosophical canon are changing. This is an exciting time in the history of philosophy. While there are still many challenges facing those who wish to discover neglected voices—locating non-Western figures, learning the necessary languages to broaden our searches, creating critical editions, and providing access to teaching materials—the door is open. We need only walk through.

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